

INSTITUTE OF GOVERNMENTAL  
STUDIES

JAN 14 1983

UNIVERSITY OF CALIFORNIA

**CITY OF POWAY**

# **HOUSING NEEDS ASSESSMENT REPORT**

**PHELPS COMPANY INC.  
VAN DELL AND ASSOCIATES, INC.**





**CITY OF POWAY**

**HOUSING  
NEEDS  
ASSESSMENT  
REPORT**


**December 1, 1982**

**PHELPS COMPANY INC.**

225 North Broadway, Suite 201  
Santa Ana, CA 92702  
(714) 541-4585

**VAN DELL AND ASSOCIATES, INC.**

17801 Cartwright Road  
Irvine, CA 92714  
(714) 966-1100



Digitized by the Internet Archive  
in 2024 with funding from  
State of California and California State Library

<https://archive.org/details/C124895808>

# TABLE OF CONTENTS

## EXECUTIVE SUMMARY

Introduction . . . . .	1
Land Use . . . . .	1
Population and Household Characteristics . . . . .	2
Housing Stock Characteristics . . . . .	3
Market Analysis . . . . .	4

## LAND USE

Existing and Future Land Use . . . . .	5
Physical Constraints: Topography . . . . .	5
Physical Constraints: Geotechnical . . . . .	6
Service and Facility Constraints . . . . .	6
Sewer Service Constraints . . . . .	7
Water Service Constraints . . . . .	7
Public Service Constraints . . . . .	8
Economic and Market Constraints . . . . .	9
Growth Projections . . . . .	9
TABLE 1 - Percent of Existing Land Uses . . . . .	11
TABLE 2 - Pending and Approved Development 1985 - 1995 . . . . .	12
TABLE 3 - Impact of Development on Public Services . . . . .	14
TABLE 4 - Growth Projections . . . . .	16
TABLE 5 - Low Growth Projections . . . . .	17
TABLE 6 - Regional Growth Forecast . . . . .	18
EXHIBIT 1 Existing Land Use . . . . .	(POCKET)
EXHIBIT 2 Projected Development . . . . .	(POCKET)
EXHIBIT 3 Slope Categories . . . . .	(POCKET)
EXHIBIT 4 Geotechnical Considerations . . . . .	(POCKET)
EXHIBIT 5 Zoning Map . . . . .	(POCKET)

## POPULATION AND HOUSEHOLD CHARACTERISTICS

Introduction . . . . .	19
EXHIBIT 6 Subregional Areas . . . . .	20
EXHIBIT 7 Subareas . . . . .	21
EXHIBIT 8 1970 Census Tracts . . . . .	22
EXHIBIT 9 1975 Census Tracts . . . . .	23
EXHIBIT 10 1980 Census Tracts . . . . .	24
EXHIBIT 11 Composite Census Tracts . . . . .	25
Household Size . . . . .	28
Households With Special Needs . . . . .	28
Age Characteristics . . . . .	29
Race and Ethnicity . . . . .	30
Illegal Immigrants . . . . .	31
Income . . . . .	32
EXHIBIT 12 Median Incomes . . . . .	33





EXHIBIT 13	Percent Low Income Households by Census Tract	34
Labor Force and Employment Characteristics . . . . .		36
TABLE 7 -	Population & Dwelling Units 1970-1980	38
TABLE 8 -	Poway Growth Rates	39
TABLE 9 -	Population, Households, & HH Size Poway	40
TABLE 10 -	Population, Households, & HH Size SRA's	41
TABLE 11 -	Single Parent Households	42
TABLE 12 -	Incidence of Large Families & Overcrowding	43
TABLE 13 -	Population Age Breakdown	44
TABLE 14 -	Households with Elderly (65+) Heads	45
TABLE 15 -	Race and Ethnicity	46
TABLE 16 -	Poway Race and Ethnicity	47
TABLE 17 -	Household Incomes	48
TABLE 18 -	Household Income by Census Tract	49
TABLE 19 -	Median Income by Census Tract	50
TABLE 20 -	Federally Refined Poverty Levels	51
TABLE 21 -	Poverty Status by Race	52
TABLE 22 -	Poverty Status by Age	53
TABLE 23 -	Poverty Status by Family Type	54
TABLE 24 -	Housing Expenditures	55
TABLE 25 -	Employment Projections	56
TABLE 26 -	Employment by Industry	57
TABLE 27	Occupation Types	58
TABLE 28 -	Place of Work	59
TABLE 29 -	Travel Time to Work	60

## HOUSING STOCK CHARACTERISTICS

Rental Housing . . . . .	61
Vacancy Rate . . . . .	62
Housing Condition . . . . .	62
EXHIBIT 14 Apartment and Mobilehome Locations	(POCKET)
EXHIBIT 15 Housing Condition Type B	64
EXHIBIT 15A Housing Condition Type C	65
TABLE 30 - Housing Unit Type	66
TABLE 31 - Housing Tenure	67
TABLE 32 - Multifamily Rental Units	68
TABLE 33 - Tenure by Units in Structure	70
TABLE 34 - Housing Vacancy	71
TABLE 35 - Tenure by Age of Structure	72

## MARKET ANALYSIS

Market Area . . . . .	73
EXHIBIT 16 Submarkets	74
Housing Sales Prices . . . . .	76
Rental Housing Prices . . . . .	78
Components of Housing Cost . . . . .	78
TABLE 36 - Housing Costs	80
TABLE 37 - Housing Values and Rents	81
TABLE 38 - Housing Market Survey - Single Family	82
TABLE 39 - Housing Market Survey - Condominium	83





TABLE 40 - Housing Market Survey - Mobilehome	83
TABLE 41 - Average Rental Housing Prices	84
TABLE 42 - Housing Costs Components	85

## APPENDICES

Technical Notes  
Geotechnical Report  
Apartment Ownership  
Bibliography



# EXECUTIVE SUMMARY





# EXECUTIVE SUMMARY

## INTRODUCTION

The City of Poway Needs Assessment Study and the accompanying exhibits contain a significant amount of detailed information about the City of Poway. The purpose of this Executive Summary is to present an overview of the data contained in the report, summarizing the relevant facts. For a more detailed discussion of any of the summary facts listed below, please see the appropriate section:

LAND USE

POPULATION AND HOUSEHOLD CHARACTERISTICS

HOUSING STOCK CHARACTERISTICS

MARKET ANALYSIS

APPENDIX

From the facts and statistics gathered and analyzed, a picture emerges of a community which just ten years ago was a rural town, but experienced rapid growth resulting in a 240% population increase between 1970 and 1980. Poway is now at a crossroads between its traditional rural lifestyle and the urban development of the adjoining City of San Diego communities of Mira Mesa, Scripps Ranch, Rancho Penasquitos, and Rancho Bernardo. Visually, the mix of the two development types can be seen in areas of Poway, and the social, economic, and market analysis contained in this report confirms this development mixture. The major points of each section are as follows:

### LAND USE

Poway is predominated by large open space areas and undeveloped parcels of land that comprise 75% of the City area. The predominant land use in the developed portion of the city is single family residential and most of these houses are on lots of





less than one acre in area. However, there are still large parcels of vacant or agricultural land between existing subdivisions and this gives the impression of a less densely developed community. In addition, many of the orchards (which make up the bulk of the City's agricultural industry) are scattered throughout the larger lot subdivisions, contributing further to the impression of a rural community.

Subdivision maps that have been either approved or submitted include an additional 825 dwelling units by 1985, 1476 by 1990, and 771 by 1995 if the present rate of development continues as it has in the past. This would mean an additional 3072 dwelling units to the 1982 figure of 10,789, or a total figure of 13,861 dwelling units altogether in 1995. There are additional areas of the City which are not yet planned for development, but are zoned to permit residential use and can be expected to add an additional 1588 dwelling units by the year 2000 and another 1588 ultimately. Therefore, if the City were built out as it is currently zoned, as of 1982, (considering topographic restrictions), the ultimate number of dwelling units, or "buildout," would be 17,036. The timing of when buildout would occur is undertermined.

In the past few years, very few approved subdivisions have actually begun construction. Because of this slow market and the continuing uncertainty about sewer and water availability, it was determined that an alternative low growth estimate should be prepared. The low growth estimate found in Table 5 illustrates that the City would have 10,930 dwelling units by 1985, 11,614 by 1990, and 13,090 by 1995 with an ultimate buildout of 14,100 units.

#### POPULATION AND HOUSEHOLDS

The 1982 population of Poway is estimated at 33,512. (This figure is an estimate, based upon an accurate dwelling unit count



derived from a "windshield survey" of the City and estimated persons per household and vacancy rates figures based upon the 1980 Census and standard statistical formulas). Poway's residents are predominantly white (90%), young or middle aged (the median age is 30) and most (85%) are members of family households as opposed to unrelated individuals. Many of these families are large families (17.5%) having five or more members. Nevertheless, only 2.8% of the households citywide were considered crowded by the 1980 census because the housing stock of largely three, four, or more bedroom units is suited to the family community in which 38% of the population is under the age of 19.

For a large portion of its residents, Poway functions as a suburb of San Diego employment centers. Fifty-five percent (55%) of the Poway labor force worked in the City of San Diego in 1980. In contrast, 20% of the population reported working in Poway. With planned office and commercial development along Interstate 15 from Miramar to Escondido, this close intertwining of the City's economy with that of the region will continue.

A large portion (43%) of Poway's labor force is in executive, professional, or skilled worker occupations. This is reflected in the City's high median income (\$24,076) - the highest of any city in San Diego County. Only 20% of Poway's households are classified as low income (earning less than 80% of the regional median income, or \$13,686). The 1980 census found only 5.2% of the households to be below the federally defined poverty level shown in Table 20. The majority of these households are families with children. Moreover, almost twenty-two percent (21.8%) of the female-headed households are below the poverty level.

#### HOUSING STOCK

Eighty percent (80%) of the dwelling units in Poway are single family homes, 14% are multifamily units, and 6% are mobilehomes.





The mobilehomes are concentrated in major parks: Poway Royale, Poinsettia Mobilehome Park, Pomerado Oaks, and Hailey's Trailer Ranch; 1109 units are located in 27 apartment buildings in the City. Only 13% of the single family units are renter occupied, but 85% of the multifamily units are renter occupied. In all, only 23% of the City's total number of units are renter occupied. This is low for the region as illustrated in Table 31.

The condition of housing in the City is good. Only 1.9% is in need of repair or replacement. This housing is not concentrated in any one neighborhood but can be found scattered throughout the City. The good condition of the housing stock is not surprising given the fact that 66% of the units were built since 1970.

#### MARKET ANALYSIS

Housing costs in Poway are in keeping with those of surrounding urbanized areas and higher than those of more rural areas to the east. In 1980, the median value of an owner occupied home was \$112,865 and the median rent being paid by all renters was \$351. A survey conducted in the summer of 1982 of single family sales illustrated that the median price has risen to \$118,000. However, housing units were available in a wide range of prices (\$69,000 to \$440,000+) and every area of the city had a fair mix of prices.

Rents in Poway are slightly below those of adjacent areas of the City of San Diego as shown in Table 41. In addition, a survey of apartment managers in the City revealed a vacancy rate of less than 1%. Several managers stated that they had waiting lists of prospective tenants which indicates that apartments are in short supply in the City.





LAND USE



# LAND USE

## Existing and Future Land Use

A land use field survey of every parcel in Poway was made as part of this study. It revealed the information contained on the Existing Land Use map (EXHIBIT 1). Of the currently developed land (including that used for agriculture), the predominant use is residential and the majority of the residential development is on lots of less than 1 acre. TABLE 1 depicts the percentage of land for each land use category. A significant amount of the smaller agricultural areas (particularly orchards) is mixed in with large lot subdivisions which contributes to the rural atmosphere in these areas and the City. The impression of a small, semi-rural town is further enhanced by the large parcels of vacant land scattered between existing subdivisions and by the largely undeveloped hills northeast, east, south, and west of town. EXHIBIT 2, delineates the location of existing development in the City and the likely path of future development in the City in time increments. If all of the proposed and approved developments are built as planned, the center of the City will be almost completely built out. TABLE 2 shows the expected timing (1985 to 1995) of pending and approved development with numeric labels that correspond to EXHIBIT 2.

## Physical Constraints: Topography

The timing and extent of future development within the City depends on several factors. One factor is the physical characteristics of the land (i.e., slope and geotechnical concerns), that restrict development patterns. Slope considerations are shown on EXHIBIT 3. Poway clearly has large areas where slope will affect the feasibility and density of development. In calculating the impact of slope considerations on future development, the policies prescribed in the General





Plan and zoning ordinance were used. Densities were assumed to be significantly reduced in areas of over 25% slope - particularly in General Plan areas 17, 18, and 19.

#### Physical Constraints: Geotechnical

Geotechnical factors were mapped to identify areas which will require specific analysis (i.e., borings, etc.) prior to City approval of proposed projects (see Appendix).

The geotechnical considerations referred to on EXHIBIT 4 include:

- Compressible Soils
- Expansive Soils
- Shallow Groundwater
- Groundwater Seepage Potential
- Erosion and Mudflows
- Slope Stability
- Rippability (i.e., ability to grade the site)

Some of these geotechnical areas are also those which can be considered "geologic hazards" if they are not properly identified and mitigated. These considerations do not necessarily suggest that development is infeasible, but simply suggest that a specific geotechnical investigation and mitigation might be considered. The slope stability symbol, denoting landslide areas, is an area where development constraints might require the greatest care and analysis, followed by expansive soils, rippability and compressive soils. The conditions of shallow groundwater, groundwater seepage potential, and erosion should also be considered as they may have similar cost and design impacts.

#### Service and Facility Constraints

A second factor is the constraint represented by the services required for development - sewer, water, streets, fire, police,



and schools. TABLE 3 depicts the standard factors which can be used to calculate the impact of various development scenarios on these services. In most cases, these are based on the past experience of the City and various public service agencies.

### Sewer Service Constraints

A review of Berryman and Stephenson's Master Sewer Plan and conversations with Public Services staff was conducted to assess sewer constraints. A comparison was made of available or projected trunk sewer capability with the sewer demand that would be required to serve the buildout population projected in this report.

The present (1982) number of dwelling units found by this study for the entire City is 10,789. The existing sewer facilities within the City of Poway are not adequate to accommodate the projected dwelling unit buildout (17,036), and increased commercial and industrial development without increased wastewater treatment capacity and additional sewer trunk construction.

Some sections of the trunk sewers are flowing at capacity at the present, while other sections have the capability of accommodating additional flow, but not for the amount that will be required at buildout. The City's sewer capacity in the Metro Treatment Plant will be reached when an additional flow of about 1 million gallons per day occurs. Therefore, while limited growth can occur in specific areas with the construction of internal trunk sewers, additional sewer capacity will be required through either the Metro Treatment plant or by reactivating the City-owned treatment plant.

### Water Service Constraints

The City presently operates a water treatment plant with a design capacity of 24 million gallons per day and a maximum capacity of 30 MGD. The City presently contracts with the SDCWA to supply





the Ramona Water District with up to 12 MGD. The facility treats raw water from the San Diego County Water Authority's aqueduct. The present per capita water usage is 235 gallons per capita per day, with a peak 1981 usage of 16 MGD or 477 gallons per capita per day. The present usage includes agricultural irrigation as well as normal domestic use. Based upon present consumption rates, the 30 million gallons per day maximum capacity could serve a population of approximately 50,300 while still supplying 6 MGD to the SDCWA for the Ramona Water District. The above calculations are based upon the assumption that the supply of imported water will meet the City's requirements. Although there could be difficulty with the provision of sewer and water services in the future, for the purpose of estimating the buildout population, these constraints were considered to affect the timing of development rather than the extent. For example, the development of the area around Old Coach Road and the area at the junction of Poway Road and Highway 67 was assumed to occur sometime after 1995 because of the lack of urban services in this area and the expense of extending water and sewer lines. Conditions in the future could change and warrant the extension of urban services to those areas. However, those conditions will not exist in the foreseeable future. Nonetheless, it is zoned for very low density development and was therefore included in the ultimate buildout estimates.

#### Public Service Constraints

Schools, police, and fire impacts also are incrementally increased as a result of growth. Schools may have the ability in some instances to accommodate more students through a variety of methods, but this is not always financially feasible. The same is basically true for police and fire protection.

In order for the City to maintain services at their current level or improve them, each development should be reviewed by the affected agencies to evaluate the anticipated impact when the proposal is received by the City.



## Economic and Market Constraints

The economy and the regional market for housing and employment are a third set of factors which will affect the timing and extent of development but over which the city has very little influence. However, it is anticipated that the extensive office and commercial development planned and underway along the I-15 corridor from Miramar Road to Escondido will have a direct impact on Poway. First, this development should result in an increased demand for housing in the area as a result of people who work in these complexes and desire to live in close proximity to their place of work. Second, the proximity of the large new commercial centers may draw away some of the regional trade from Poway even though most of the office and commercial development in Poway is local serving at this time. Competition with the other large centers outside of Poway may ensure that Poway's commercial area remains locally oriented.

## Growth Projections

Based upon the past rate of development in the City of Poway, the number of planned and approved subdivisions, and the projects proposed or underway around the city limits, the growth projections contained in TABLE 4 were developed including population, household size and vacancy rates. The projections assume a continuation of present land use policies, no dramatic change in the economy for better or worse, and an eventual resolution of the City's (actually, the entire County's) water supply and sewage disposal problems. The estimates through 1995 are based on development proposals in process or at least presented in concept to City staff. The projections for the year 2000 and "buildout" are based on the existing 1982 zoning map (EXHIBIT 5) and slope constraints. TABLE 5 takes a different look at the future by depicting a low growth estimate based on the assumptions that (1) the economy, and particularly the San Diego County housing market does not continue at the current



level or recover, but continues to slide for several years, and (2) that the water supply and sewage treatment problems in the County are not resolved resulting in restrictions on growth. Under this scenario only infill development in the urbanized area and some rural areas were assumed to occur.

Table 6 illustrates a third growth projection developed by SANDAG, independent of the City of Poway. It represents growth to the year 2000 on a regional basis. This projection was developed prior to the incorporation of Poway and the availability of 1980 census data. The next iteration of the Regional Growth Forecast (Series 6) is expected to be more in line with the projections contained in this report.





TABLE 1  
CITY OF POWAY  
PERCENTAGE OF  
EXISTING LAND USES

RESIDENTIAL	13.6%
- single family	
- multi family	
- mobilehomes	
- motel/hotel	
PUBLIC	1.2%
- public/semi	
- utilities	
COMMERCIAL/INDUSTRIAL	.4%
- business/office	
- retail/wholesale	
- commercial recreation	
AGRICULTURAL	9.2%
OPEN SPACE	75.6%
- vacant	
- recreation	

SOURCE: September, 1982 field survey



TABLE 2  
CITY OF POWAY  
PENDING & APPROVED DEVELOPMENT  
DWELLING UNITS

<u>DEVELOPMENT</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>TOTAL</u>
1. LOMAS VERDES TTM 81-01 TM 3842		117		117
2. COCHE VIEJO TM 4267		31	31	62
3. BLUE SKY RANCH		62		62
4. HIRSCH RANCH TM 4090, 4091, 4092, 4093		415		415
5. PIEDMONT PARK TM 3545		58	20	78
6. M & M TM 4158	11	12		23
7. GREEN VALLEY GROVES TTM 82-01		38	37	75
8. GREEN VALLEY HIGHLANDS TTM 8206		23	23	46
9. LA MANDA TM 82-04		8		8
10. POWAY WOODS TM 3503		113		113
11. DEL PONIENTE TM 3753	56			56
12. BLUEVIEW TM 3951		36		36
13. GREEN VALLEY RIDGE TM 4259		41	41	82
14. TIERRA BONITA TTM 82-03	30			30
15. NORTH COUNTRY TM 3087	49			49





<u>DEVELOPMENT</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>TOTAL</u>
16. CULEBRA HILLS TM 3864	48	16		64
17. MILLARDS ROAD TTM 81-03	4	4		8
18. HATFIELD TM 4185		35		35
19. RAYO DEL SOL TM 3926	60	180		240
20. CARRIAGE LANE TM 4180	71			71
21. NORTH AMERICAN HOUSING TM 4193	55			55
22. EVANSTON TM 3971	8			8
23. AVOCADO GLEN MOBILE	166			166
24. WESTCOTT TM 82-05		8	8	16
25. AXTELL TM 4278		10	9	19
26. SUNWOOD TM 4019	29			29
27. OAK KNOLL TM 4177	8	8		16
28. THE PONDS TM 3994	15	15		30
29. CASITAS POWAY TM 3949	42	43		85
30. RANCHO ARBOLITOS TM 3495, 4107 4191	173	200	602	975
TOTAL	825	1476	771	3072

SOURCE: POWAY PLANNING DEPARTMENT



TABLE 3  
CITY OF POWAY  
IMPACT OF DEVELOPMENT  
ON PUBLIC SERVICES

SEWER:

RESIDENTIAL	=	.000131 cfs/capita
COMMERCIAL	=	.00021 cfs/1000 sq. ft.
INDUSTRIAL	=	.00021 cfs/1000 sq. ft.
CHURCHES	=	.0000042 cfs/capita
SCHOOLS	=	.00002 cfs/student

(cubic feet per second = cfs)

WATER:	RESIDENTIAL	=	235 gallons per day/capita
	COMMERCIAL	=	135 gallons per day/1000 sq. ft.
	INDUSTRIAL	=	135 gallons per day/capita
	CHURCHES	=	2.7 gallons per day/capita
	SCHOOLS	=	13 gallons per day/student

STREETS: RESIDENTIAL

rural to low density (0-4.5 du/ac)	=	14.0 to 10.0 trip ends/DU
low to medium density (4.5-15.0 du/ac)	=	10.0 to 7.1 trip ends/DU
medium to high density (15.0-30 du/ac)	=	7.1 to 6.1 trip ends/DU
INDUSTRIAL	=	5.4 trip ends/1000 sq. ft.
GENERAL OFFICE	=	12.3 trip ends/1000 sq. ft.
AGRICULTURE	=	1.0 trip end/acre



FIRE: RESIDENTIAL

rural = 4 mile response distance

low to medium = 3 mile response distance

medium to high = 1.5 - 2 mile response distance

COMMERCIAL = 1.5 - 2 mile response distance

INDUSTRIAL = 1 - 1.5 mile response distance

POLICE: RESIDENTIAL = 1 patrol unit/10,000 population  
(minimum coverage)

SCHOOLS: RESIDENTIAL = .35 elementary school students/DU  
.25 middle school students/DU  
.25 high school students/DU

SOURCES: SEWER : Berryman-Stephenson, Inc. "Analysis of Sewer Trunk  
Facilities, Sept., 1982"  
WATER : Public Works Dept., City of Poway  
STREETS: "Trip Generation" ITE Information Report 1979  
FIRE : Poway Fire Department  
POLICE : Poway Substation, San Diego County Sheriff's Dept.  
SCHOOLS: Poway Unified School District





TABLE 4  
CITY OF POWAY  
GROWTH PROJECTIONS

	<u>1980</u>	<u>1982</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u> <sup>1</sup>	<u>BUILDOUT</u> <sup>2</sup>
DWELLING UNITS	10765	10789	11614	13090	13861	15449	17036
POPULATION	33436	33512	35138	40200	43472	48942	57245
HOUSEHOLD SIZE	3.17	3.17	3.10	3.15	3.25	3.30	3.50
VACANCY RATE	3.6	2.4	2.4	3.0	3.5	4.0	4.0
	(census)	(market survey)	(predicted)				

<sup>1</sup> Based upon 50% vacant land remaining within city limits being developed.

<sup>2</sup> Based upon balance of vacant land from year 2000.

NOTE: The 1982 dwelling unit figure is an actual count of units in the City in August, 1982. The population estimate was derived by using the vacancy rate factor found by the Federal Home Loan Bank in October, 1981, and the population per household of the 1980 census. The actual population of the City may vary somewhat. A similar method was used for the projections for 1985, 1990, 1995 and 2000. The dwelling unit estimate for the projections to 1995 was based on proposed and approved projects.



TABLE 5  
CITY OF POWAY  
LOW GROWTH PROJECTIONS

	<u>1980</u>	<u>1982</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>BUILDOUT</u> <sup>1</sup>
DWELLING UNITS	10765	10789	10930	11614	13090	13861	14100
POPULATION	33436	33512	33071	35488	41054	43912	47376
HOUSEHOLD SIZE	3.17	3.17	3.10	3.15	3.25	3.30	3.50
VACANCY RATE	3.6	2.4	2.4	3.0	3.5	4.0	4.0
	(census)	(market survey)	(predicted)				

<sup>1</sup> Based upon balance of vacant land developing in rural infill areas only.

NOTE: The 1982 dwelling unit figure is an actual count of units in the City in August, 1982. The population estimate was derived by using the vacancy rate factor found by the Federal Home Loan Bank in October, 1981, and the population per household of the 1980 census. The actual population of the City may vary somewhat. A similar method was used for the projections for 1985, 1990, 1995 and 2000. The dwelling unit estimate for the projections to 1995 was based on proposed and approved projects.



TABLE 6  
REGIONAL GROWTH FORECAST  
1985-2000

SUBREGIONAL AREAS	1985		1995		2000	
	<u>POP</u>	<u>HH</u>	<u>POP</u>	<u>HH</u>	<u>POP</u>	<u>HH</u>
POWAY	46,490	14,616	64,369	21,811	67,097	23,216
ESCONDIDO	101,716	39,903	120,542	48,943	123,800	51,152
NO. SAN DIEGO	41,116	15,294	81,876	31,565	87,960	34,536
DEL MAR/MIRA MESA	70,347	25,151	108,878	40,190	127,843	49,039
ELLIOTT/NAVAJO	97,915	31,136	95,794	31,683	101,903	34,292
RAMONA	17,107	6,021	26,375	9,807	34,783	13,318
S.D. COUNTY						
URBANIZED AREA	2,068,332	762,105	2,454,013	946,524	1,625,723	1,032,105

HH = Households

POP = Population

SOURCE: SANDAG Series 5 Regional Growth Forecast

NOTE: Subregional areas are shown on Exhibit 6



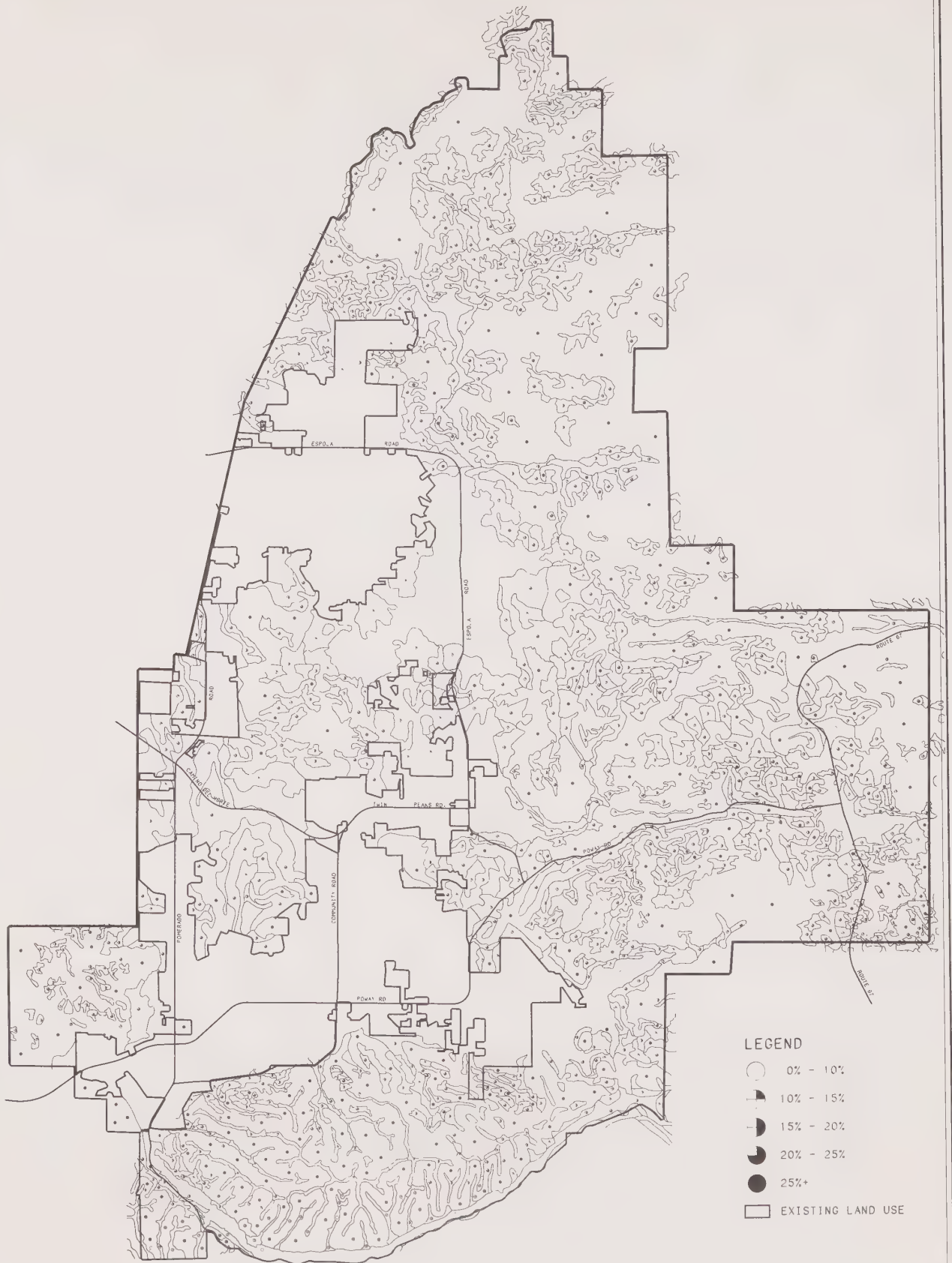












# SLOPE CATEGORIES CITY OF POWAY

(BASED UPON 20' SCALE ANALYSIS)

EXHIBIT **3**   
OCTOBER 1982

PHELPS COMPANY INC.  
VAN DELL AND ASSOCIATES, INC.





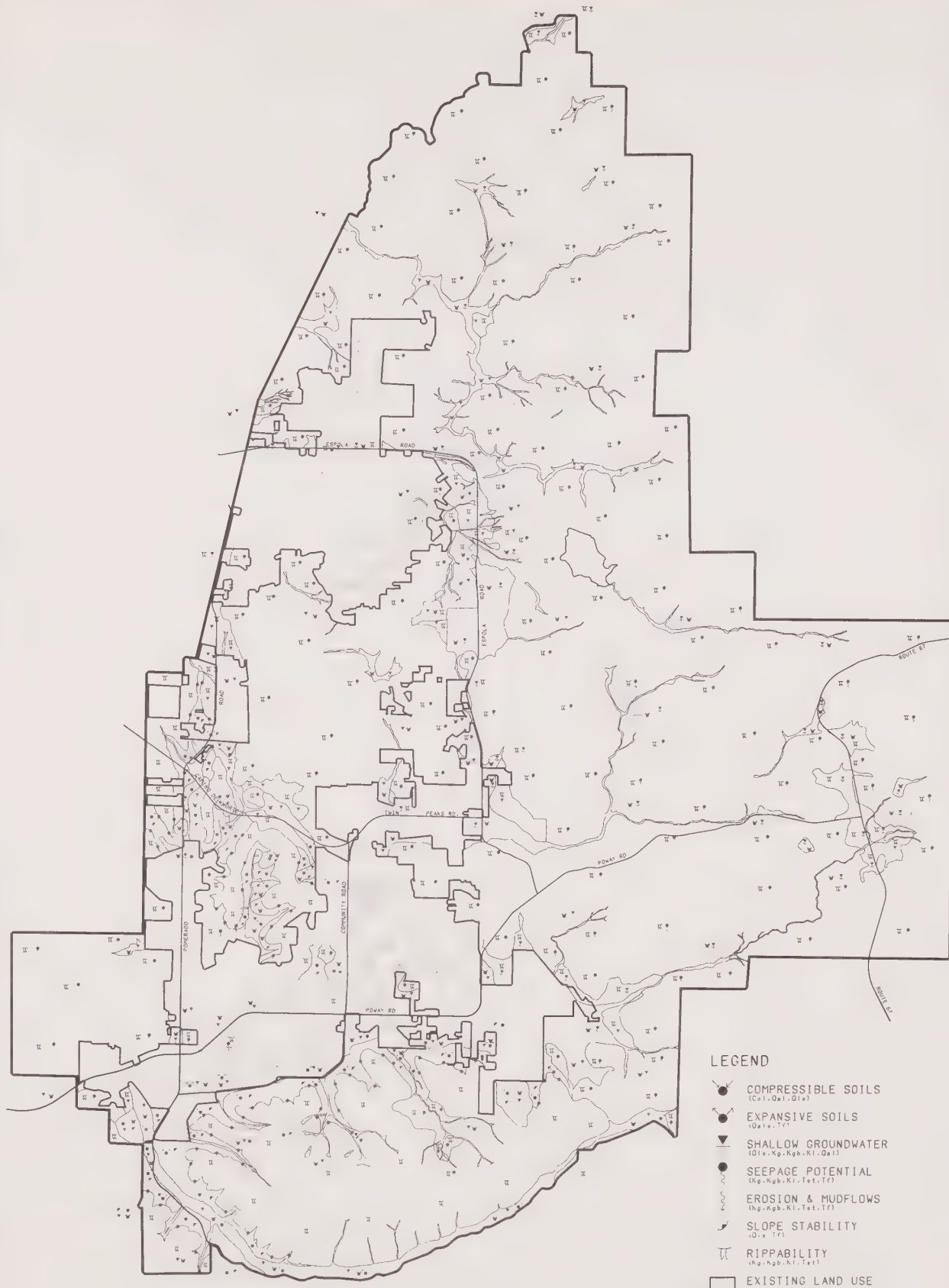


EXHIBIT 4



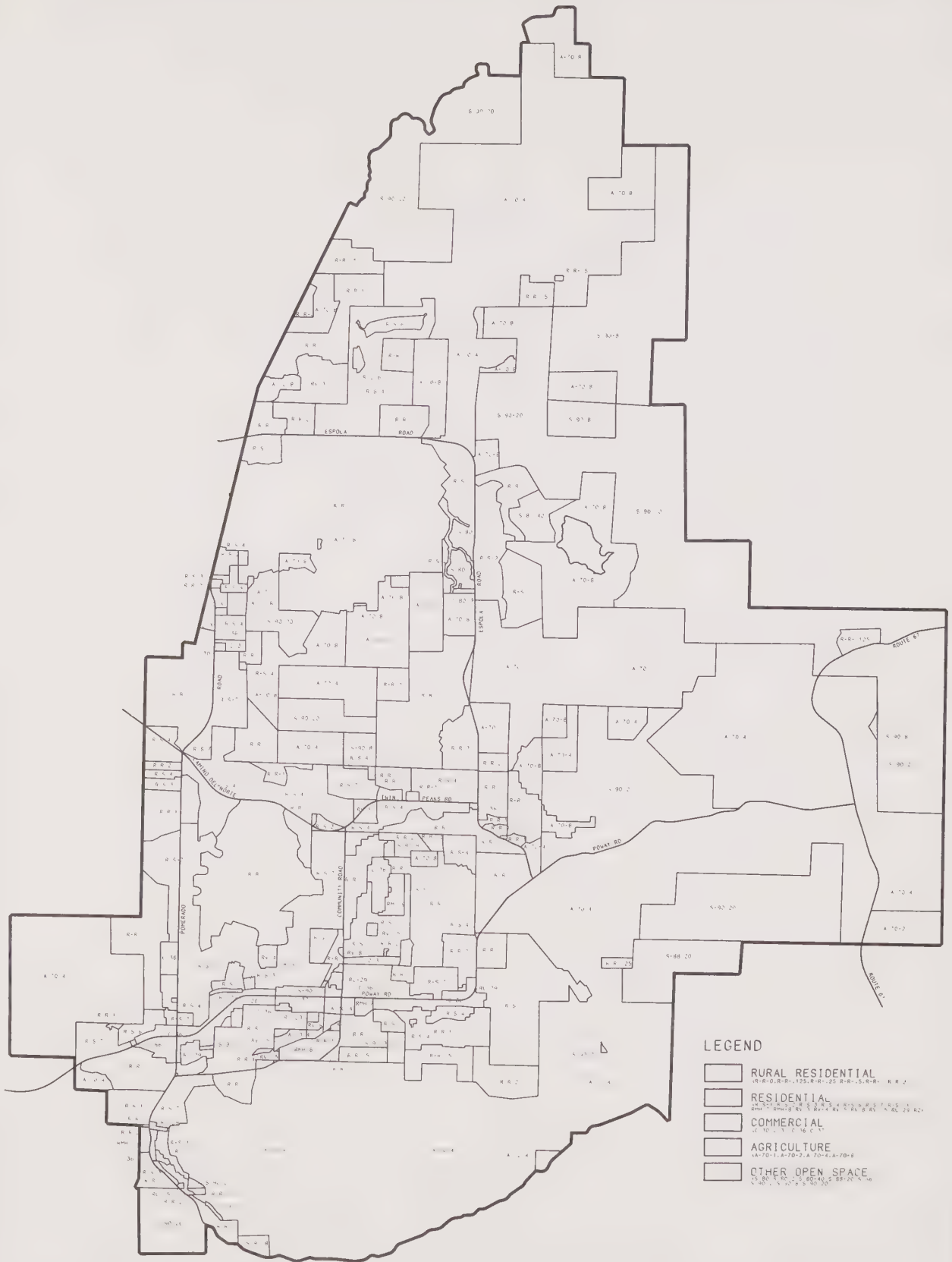
0 1000 2000 3000  
OCTOBER 1982

# GEOTECHNICAL CONSIDERATIONS CITY OF POWAY

BASED ON OCTOBER 8, 1982  
GEOTECHNICAL STUDY  
PERFORMED BY LEITCHON  
AND ASSOCIATES, INC.

PHELPS COMPANY INC.  
VAN DELL AND ASSOCIATES, INC.





# LEGEND

- RURAL RESIDENTIAL  
(R-1, R-2, R-3, R-4, R-5, R-6, R-7, R-8, R-9, R-10, R-11, R-12, R-13, R-14, R-15, R-16, R-17, R-18, R-19, R-20, R-21, R-22, R-23, R-24, R-25, R-26, R-27, R-28, R-29, R-30, R-31, R-32, R-33, R-34, R-35, R-36, R-37, R-38, R-39, R-40, R-41, R-42, R-43, R-44, R-45, R-46, R-47, R-48, R-49, R-50, R-51, R-52, R-53, R-54, R-55, R-56, R-57, R-58, R-59, R-60, R-61, R-62, R-63, R-64, R-65, R-66, R-67, R-68, R-69, R-70, R-71, R-72, R-73, R-74, R-75, R-76, R-77, R-78, R-79, R-80, R-81, R-82, R-83, R-84, R-85, R-86, R-87, R-88, R-89, R-90, R-91, R-92, R-93, R-94, R-95, R-96, R-97, R-98, R-99, R-100)
- RESIDENTIAL  
(R-1, R-2, R-3, R-4, R-5, R-6, R-7, R-8, R-9, R-10, R-11, R-12, R-13, R-14, R-15, R-16, R-17, R-18, R-19, R-20, R-21, R-22, R-23, R-24, R-25, R-26, R-27, R-28, R-29, R-30, R-31, R-32, R-33, R-34, R-35, R-36, R-37, R-38, R-39, R-40, R-41, R-42, R-43, R-44, R-45, R-46, R-47, R-48, R-49, R-50, R-51, R-52, R-53, R-54, R-55, R-56, R-57, R-58, R-59, R-60, R-61, R-62, R-63, R-64, R-65, R-66, R-67, R-68, R-69, R-70, R-71, R-72, R-73, R-74, R-75, R-76, R-77, R-78, R-79, R-80, R-81, R-82, R-83, R-84, R-85, R-86, R-87, R-88, R-89, R-90, R-91, R-92, R-93, R-94, R-95, R-96, R-97, R-98, R-99, R-100)
- COMMERCIAL  
(C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, C-16, C-17, C-18, C-19, C-20, C-21, C-22, C-23, C-24, C-25, C-26, C-27, C-28, C-29, C-30, C-31, C-32, C-33, C-34, C-35, C-36, C-37, C-38, C-39, C-40, C-41, C-42, C-43, C-44, C-45, C-46, C-47, C-48, C-49, C-50, C-51, C-52, C-53, C-54, C-55, C-56, C-57, C-58, C-59, C-60, C-61, C-62, C-63, C-64, C-65, C-66, C-67, C-68, C-69, C-70, C-71, C-72, C-73, C-74, C-75, C-76, C-77, C-78, C-79, C-80, C-81, C-82, C-83, C-84, C-85, C-86, C-87, C-88, C-89, C-90, C-91, C-92, C-93, C-94, C-95, C-96, C-97, C-98, C-99, C-100)
- AGRICULTURE  
(A-1, A-2, A-3, A-4, A-5, A-6, A-7, A-8, A-9, A-10, A-11, A-12, A-13, A-14, A-15, A-16, A-17, A-18, A-19, A-20, A-21, A-22, A-23, A-24, A-25, A-26, A-27, A-28, A-29, A-30, A-31, A-32, A-33, A-34, A-35, A-36, A-37, A-38, A-39, A-40, A-41, A-42, A-43, A-44, A-45, A-46, A-47, A-48, A-49, A-50, A-51, A-52, A-53, A-54, A-55, A-56, A-57, A-58, A-59, A-60, A-61, A-62, A-63, A-64, A-65, A-66, A-67, A-68, A-69, A-70, A-71, A-72, A-73, A-74, A-75, A-76, A-77, A-78, A-79, A-80, A-81, A-82, A-83, A-84, A-85, A-86, A-87, A-88, A-89, A-90, A-91, A-92, A-93, A-94, A-95, A-96, A-97, A-98, A-99, A-100)
- OTHER OPEN SPACE  
(O-1, O-2, O-3, O-4, O-5, O-6, O-7, O-8, O-9, O-10, O-11, O-12, O-13, O-14, O-15, O-16, O-17, O-18, O-19, O-20, O-21, O-22, O-23, O-24, O-25, O-26, O-27, O-28, O-29, O-30, O-31, O-32, O-33, O-34, O-35, O-36, O-37, O-38, O-39, O-40, O-41, O-42, O-43, O-44, O-45, O-46, O-47, O-48, O-49, O-50, O-51, O-52, O-53, O-54, O-55, O-56, O-57, O-58, O-59, O-60, O-61, O-62, O-63, O-64, O-65, O-66, O-67, O-68, O-69, O-70, O-71, O-72, O-73, O-74, O-75, O-76, O-77, O-78, O-79, O-80, O-81, O-82, O-83, O-84, O-85, O-86, O-87, O-88, O-89, O-90, O-91, O-92, O-93, O-94, O-95, O-96, O-97, O-98, O-99, O-100)

## ZONING CITY OF POWAY

EXHIBIT 5  
OCTOBER 1982

PHELPS COMPANY INC.  
VAN DELL AND ASSOCIATES, INC.



# POPULATION AND HOUSEHOLD CHARACTERISTICS





# POPULATION AND HOUSEHOLD CHARACTERISTICS

## Introduction

In reviewing the information which was collected for the City of Poway, the one fact that is immediately apparent is the City's rapid growth between 1970 and 1980. This growth greatly changed the appearance and functional characteristics of the community. However, Poway's rapid growth is reflective of the generally high growth rate of surrounding North County areas. TABLE 7 illustrates this fact. EXHIBIT 6 shows a map of the subregional areas as defined by SANDAG.

Within the City, the highest growth rate between 1970 and 1980 (TABLE 8) occurred in the area north of the proposed route for Camino del Norte and Twin Peaks Road. However, development density remains highest in the central portion of the City, between Camino Del Norte/Twin Peaks and Poway Road and the area south of Poway Road. EXHIBIT 7 shows the three subareas of Poway. They are equivalent to the 1970 federal census tracts. EXHIBIT 8 depicts 1970 federal census tracts; EXHIBIT 9 depicts 1975 special county census tracts; EXHIBIT 10 depicts 1980 federal census tracts. The census tracts changed significantly (EXHIBIT 11) for each census taken due to the rapid growth during the 1970's.

Analyzing certain characteristics of the population and households of Poway is one way of understanding the reasons for the types of development which have occurred in the City and those most likely to occur in the future. Although individual characteristics are important, the basic unit which generally provides the most useful information for planning purposes, is the household. The U.S. Census Bureau considers all of the people living in one dwelling unit as a household. A single person renting an apartment, as well as a family owning and living in a house or mobilehome is considered a household. Demographic studies have confirmed the common sense knowledge



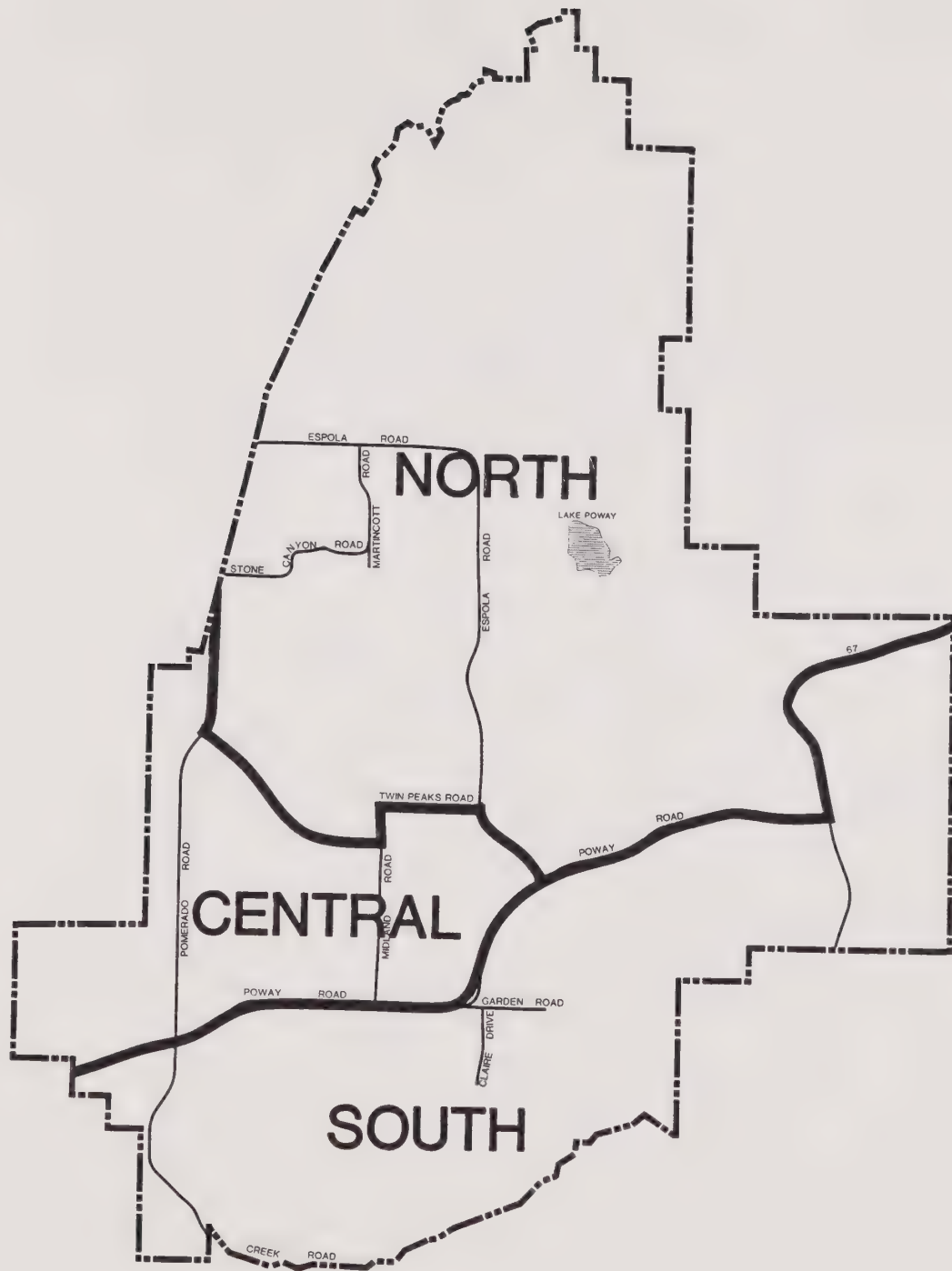


# **SUBREGIONAL AREAS CITY OF POWAY**

Phelps Company Inc.  
Van Dell and Associates, Inc.

**EXHIBIT 6**





# SUBAREAS CITY OF POWAY

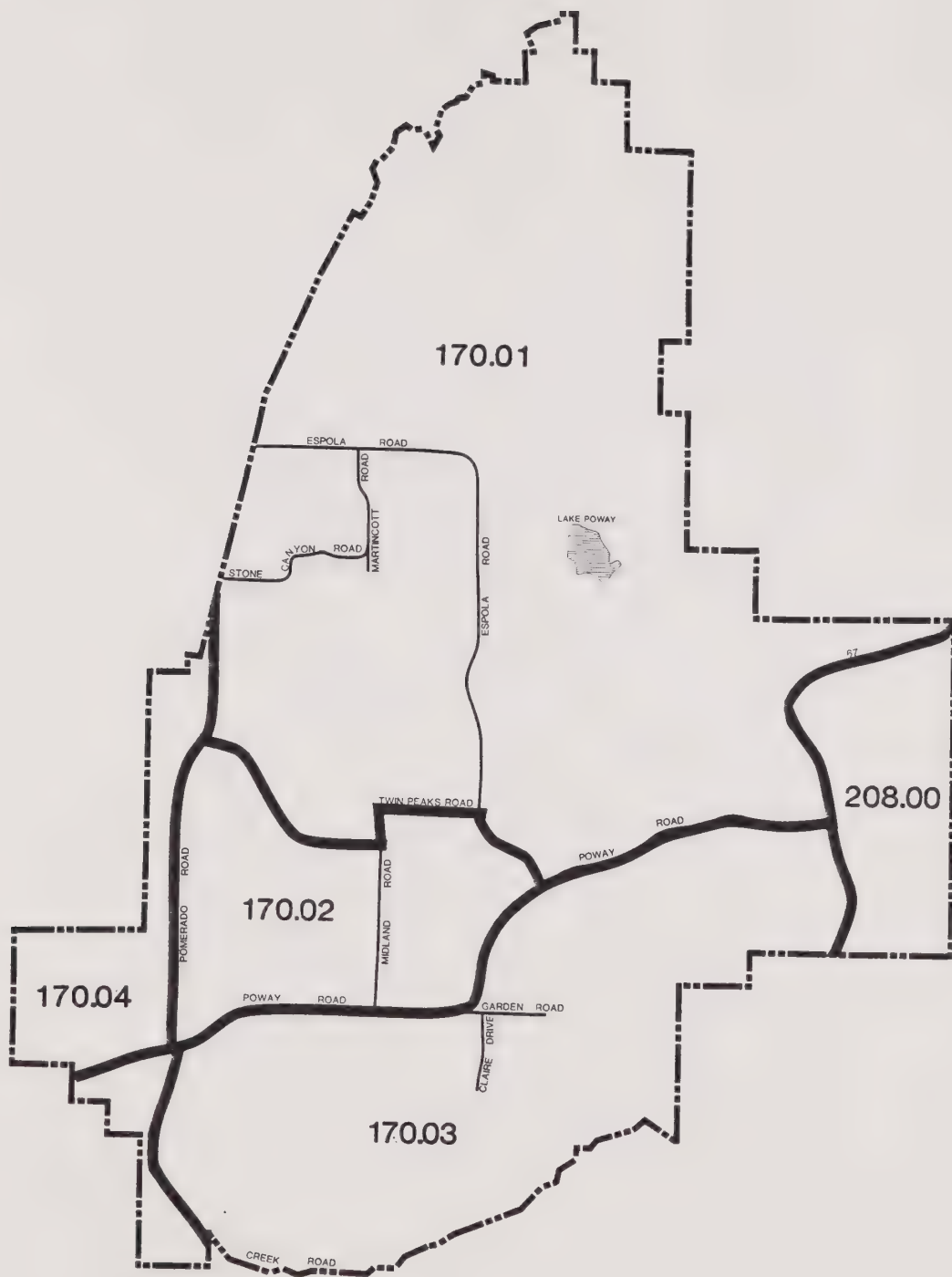


0 2000' 4000'

Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 7





0 2000' 4000'

# 1970 CENSUS TRACTS

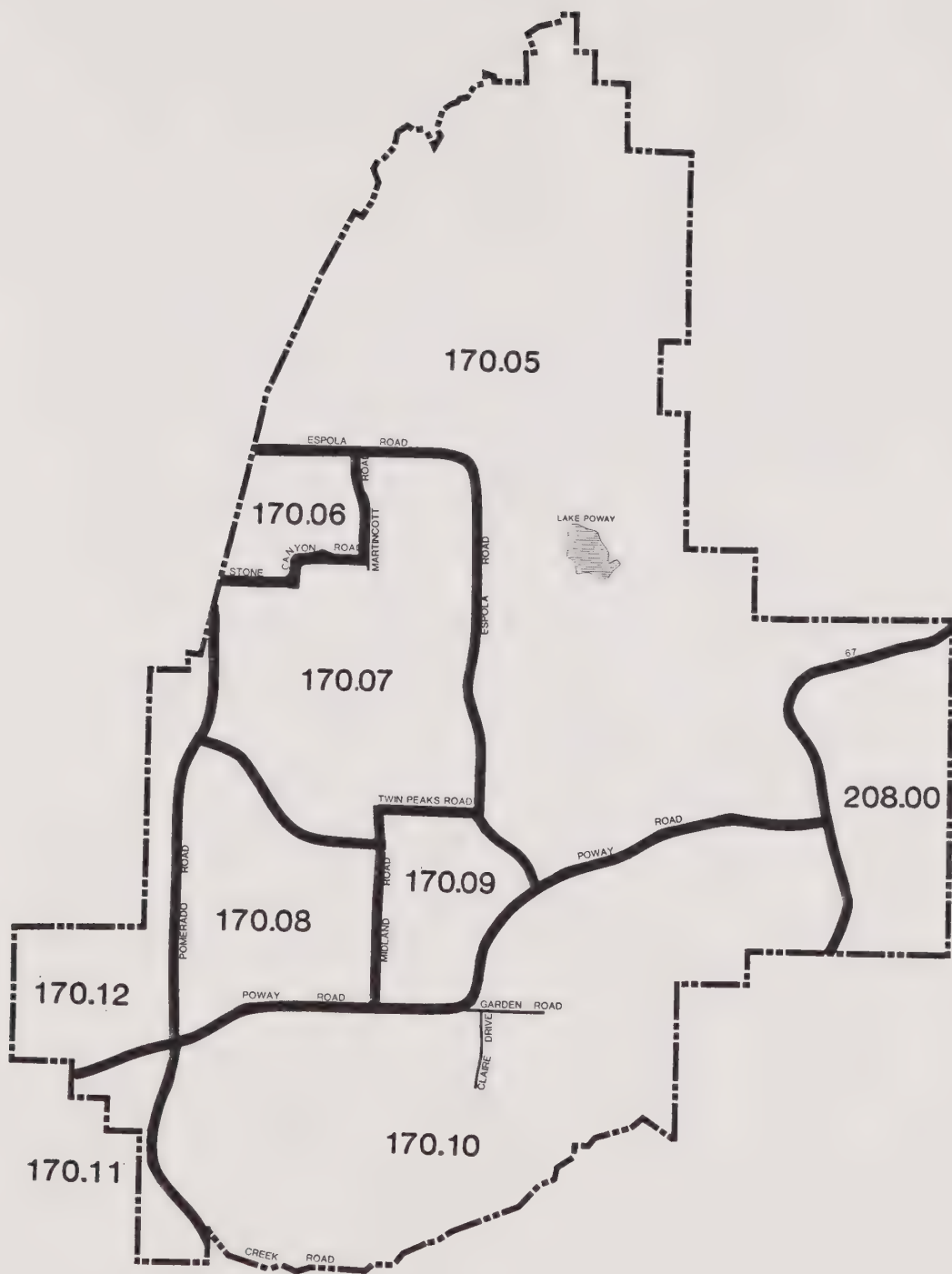
## CITY OF POWAY

Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 8







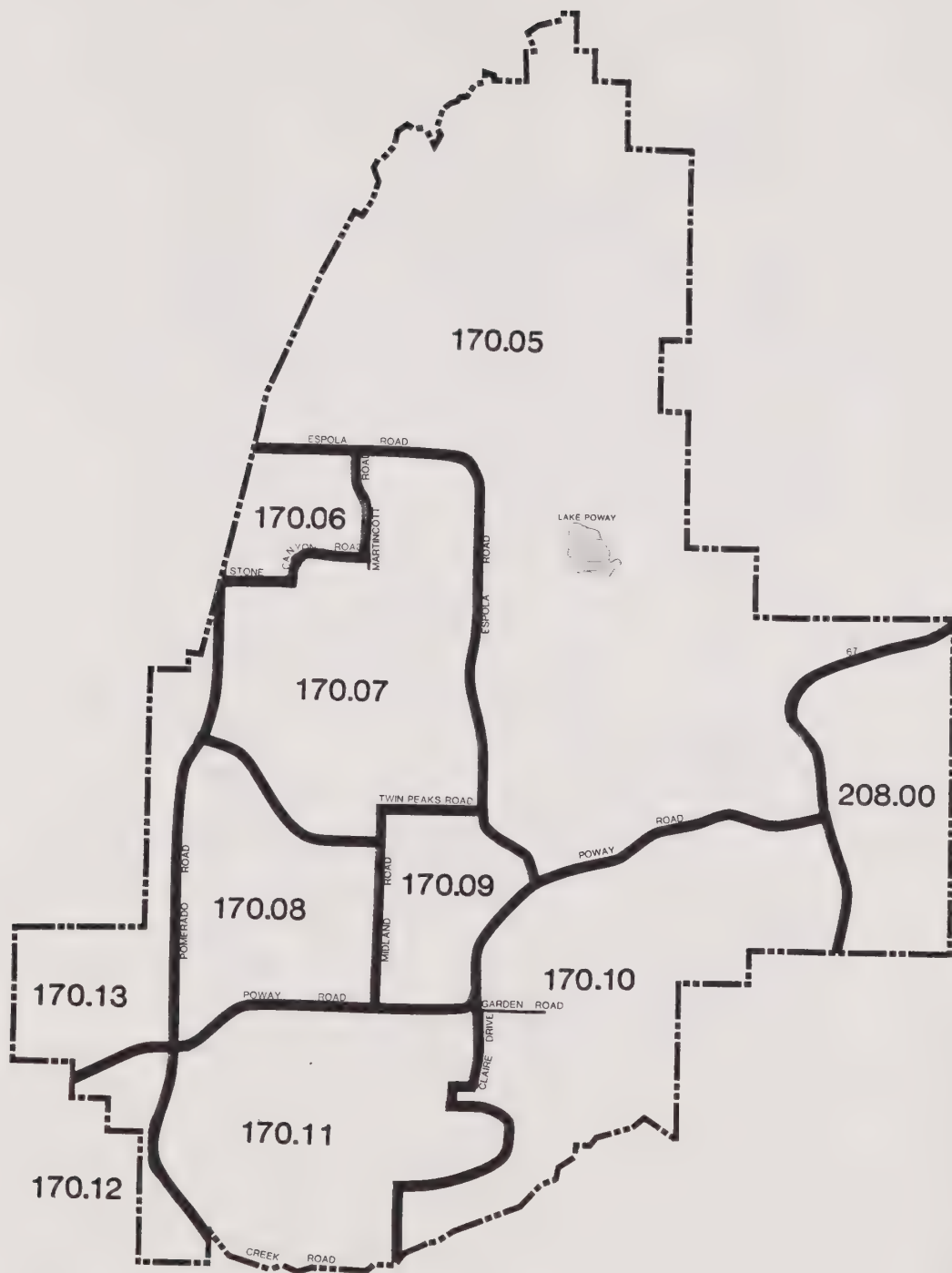
0 2000' 4000'

# 1975 CENSUS TRACTS CITY OF POWAY

Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 9





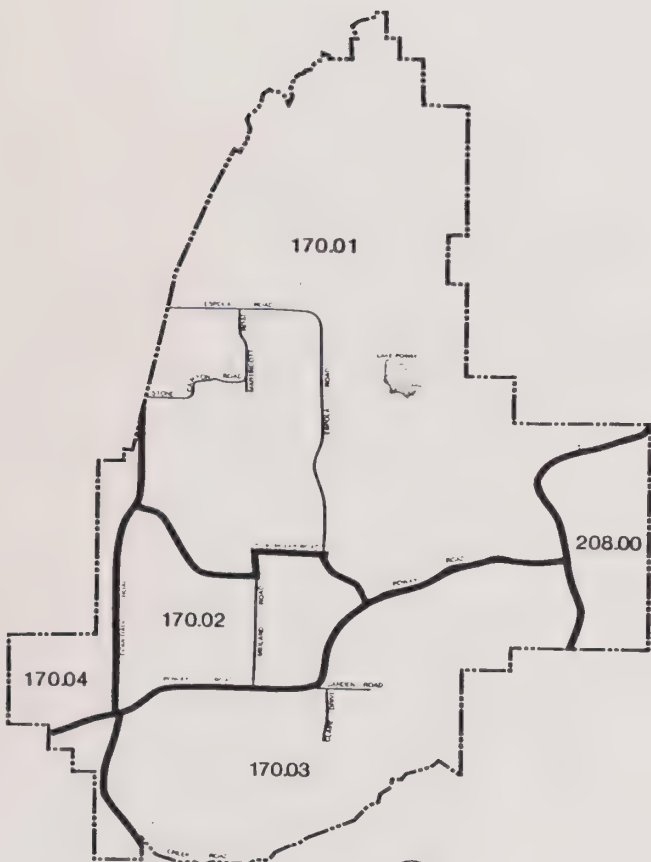
0 2000' 4000'

# 1980 CENSUS TRACTS CITY OF POWAY

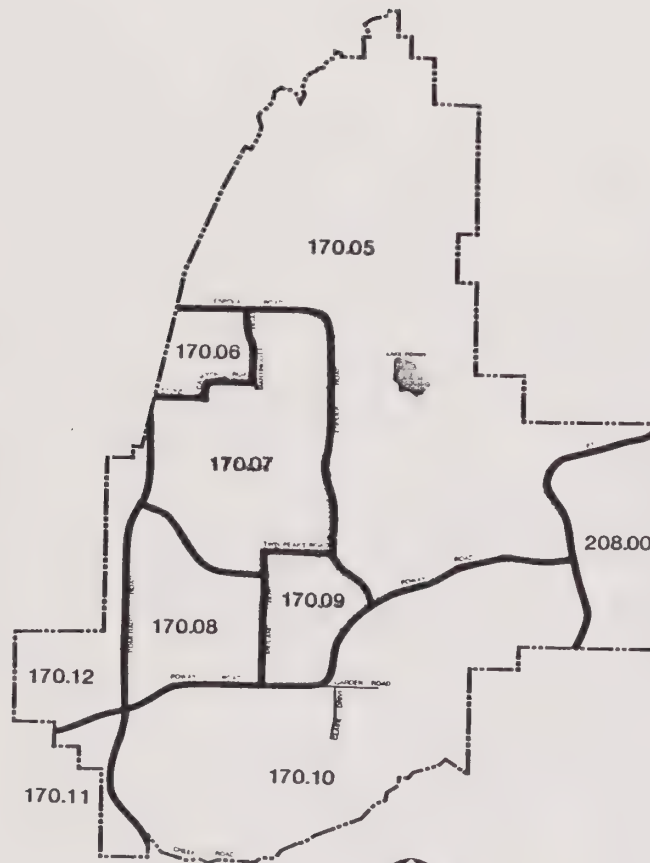
Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 10

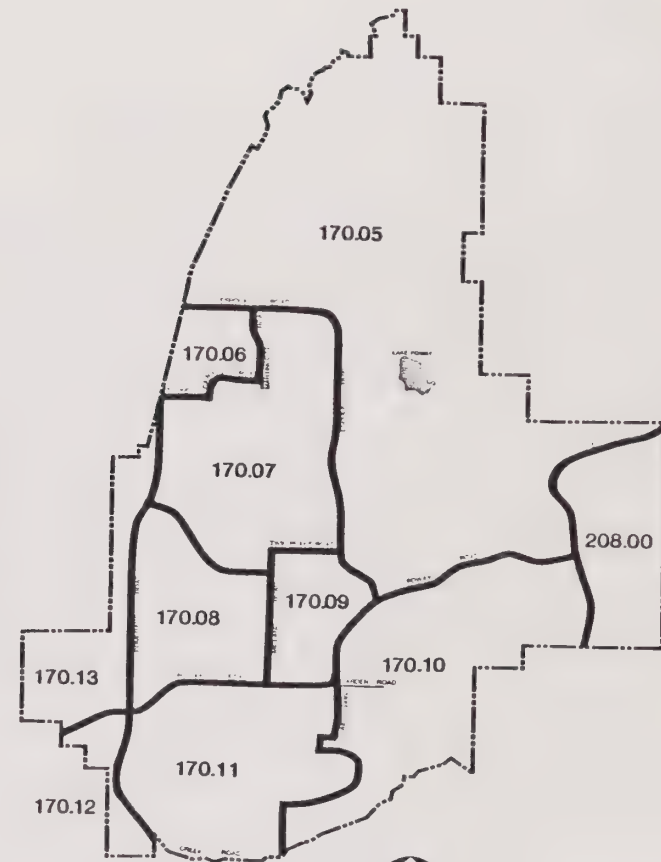




1970



1975



1980

# CENSUS TRACTS

## CITY OF POWAY

Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 11





that as individuals age, their household arrangements and housing needs change. Children live with their parents through high school and occasionally college and then move out to set up their own households. Young, unmarried people who are on their own usually rent housing and frequently share with non-relative roommates. They are more likely to move from unit to unit as their jobs and roommates change. They are also more likely to seek smaller units and ones involving less maintenance (e.g., apartments rather than houses). Young married couples may rent apartments, or own condominiums, but if they have children they are more likely to seek a single family house. As their family size increases and their income increases, they may trade up to a larger house, but families at this stage are typically stable and settled.

The next major change in housing needs occurs when the children leave home and the couple approaches retirement. At this time, they may choose a smaller unit to reduce maintenance costs and move to be near activities or people that they want to spend time with in retirement. Retirement and convalescent homes are often necessary for those elderly people who cannot live alone but cannot or choose not to live with relatives. A city which provides a range of housing types to fit the needs of people at different lifetime stages is more likely to have a stable population of lifelong residents than one which does not. By comparing the types of households and housing units available in a city, we can often tell what types of units are needed in the future to meet the needs of its populations.

TABLE 9 summarizes the changes in population, households, and household size that have occurred in Poway over the past 10 years. The decreasing average household size is a reflection of both the aging trend in the population and the declining birth rate in San Diego County and the state as a whole.



### Household Size

Although Poway had a smaller average household size in 1980 than in 1970 (3.17 as opposed to 3.83), its households are on the average larger than those in surrounding communities and the County as a whole (TABLE 10).

In theory, these larger households could be unrelated individuals sharing homes, however, further examination of the census data reveals that this is not the case. 85.4% of the households in Poway are families. Therefore, the larger household size in Poway reflects a predominantly family-oriented community.

### Households with Special Needs

Single-parent households are considered households with special needs. The percentage of families in the city that can be defined as a single parent household is 12.7%. These families are more likely to need day care or babysitting services, public transportation for the parent or the children to get to and from work or school and other basic activities. They may also need special counseling or health services. 77% of the single-parent households in Poway are headed by women. Since women on the average earn only 60% of what the average working man earns, these households are also likely to have low or moderate incomes. The 1980 census revealed that while in Poway only 4.6% of all families with children under 18 were below the federal poverty level, 21.8% of female-headed families with children under 18 had incomes below the federal poverty level.

Another type of household which is considered to have special needs is the large family household which has five or more members. These households require larger dwelling units (3 or more bedrooms) in order not to be overcrowded. An overcrowded household is defined by the U.S. Bureau of the Census as one with more than 1.01 persons per room. Although this is a culturally



defined standard, studies have demonstrated that exceeding this ratio in the United States tends to lead to a higher incidence of domestic disputes and greater wear and tear on the units. TABLE 12 depicts the incidence of both large families and overcrowding in the City of Poway. As would be expected, the percentage of large family declined from 1970 to 1980 in keeping with the overall decrease in household size. Poway is atypical in regard to larger family and overcrowding because the percentage of overcrowded households does not reflect the substantial number of large families in the City. This is because the majority of the units in Poway have 3,4, or more bedrooms. Poway was built for families, including large families.

#### Age Characteristics

Between 1970 and 1980, the median age of the population for the entire County of San Diego increased from 25.6 years in 1970 to 28.8 years in 1980. This is attributed to the aging of the people born during the post war "baby boom," the general increase in life expectancy, and the migration of a significant number of retirement-aged people to the County during the decade. The general aging of the population is also reflected in the increasing percentage of the population which is over 65 (from 8.7% in 1970 to 10.2% in 1980 for the County as a whole) and the decreasing percentage of juveniles (32.0% in 1970 and 25.6% in 1980). Although the City of Poway has experienced the same aging trend, it has a much higher percentage of people 18 years and under and a much smaller population over 65 years. In 1970, the median age for the Poway subregion was 22.3 years. In 1980 it had risen to 30.6. TABLE 13 shows Poway in comparison to surrounding communities. The fact that Poway has remained a predominantly family community is in part attributable to the increasing housing stock available - largely three and four bedroom, single family detached units. Households with children typically seek such units while retirees often prefer smaller units which require less time and money to maintain.





The large percentage of children and the small percentage of elderly is particularly striking when compared to the North San Diego (which includes Rancho Bernardo) subregional area immediately adjacent to the northern section of Poway. The development types in this area (unit size and density) and populations of the two communities remain distinctive despite their close proximity.

The percentage of elderly in the total population is lower than the percentage of household heads who are over the age of 65. In both 1970 and 1980, 5% of the households in Poway were over the age of 65. In contrast, the percentage of households with elderly heads for the entire county was 17.6% in 1980. Despite the overall aging of the population, the number of households in Poway with elderly heads (TABLE 14) has not increased. As the table below indicates, the concentration of households over 65 varies from census tract to census tract. This variation generally reflects the availability of smaller, affordable housing such as mobile homes, apartments and condominiums.

### Race and Ethnicity

Housing need is not directly affected by race. However, minority households make up a disproportionate share of lower income households (for example, Hispanic people represented 5.4% of the 1980 population of Poway, but 9% of the persons below poverty level). Local governments are concerned with the ethnic composition of their population mainly as an indication of housing discrimination. This is normally reflected by an exceptionally low percentage minority population given the regional percentages or by the concentration of minorities in particular subareas. TABLE 15 compares Poway's racial and ethnic composition with that of surrounding communities and the county. Although minority representation has increased since 1970, Poway remains predominantly white. However, the City's racial and ethnic breakdown is comparable to that of surrounding North County communities.





TABLE 16 shows the distribution of racial and ethnic groups within the City of Poway. As can be seen, the distribution is generally even.

### Illegal Immigrants

Recent studies of the incidence of illegal immigration into Southern California and its impact on local economies point out the difficulty in estimating the total number of migrants at any point in time. (See particularly: "Mexican Immigrants and Southern California: A Summary of Current Knowledge" published by the Program in United States - Mexican Studies at UCSD, and "Undocumented Immigrants: Their Impact on the County of San Diego", a report prepared by Community Research Associates, Inc. for the County of San Diego.) This is due to the fact that many of these people enter the U.S. only temporarily for seasonal work in agriculture or construction and all of them avoid contact with public agencies who might count them as well as cause them to be returned to their home country.

There is more information about the types of jobs they are likely to hold and the types of firms which employ them. Farm laborers in Southern California are overwhelmingly Mexican nationals. Unskilled and semi-skilled construction laborers (particularly in construction clean-up) are predominantly Mexican nationals. Among those with more stable, permanent jobs, dishwashers, busboys, and janitorial workers are predominantly Mexican immigrants. In addition, illegal immigrants tend to find work in smaller firms (those having fewer than 20 employees). Finally, most of the household service workers in Southern California (maids, babysitters, cooks, gardeners, etc.) are Mexican immigrants.

The studies cited above have found that the large majority of these workers are paid at least the minimum wage and agricultural workers averaged \$4.72/hr. in 1981. The type of housing desired



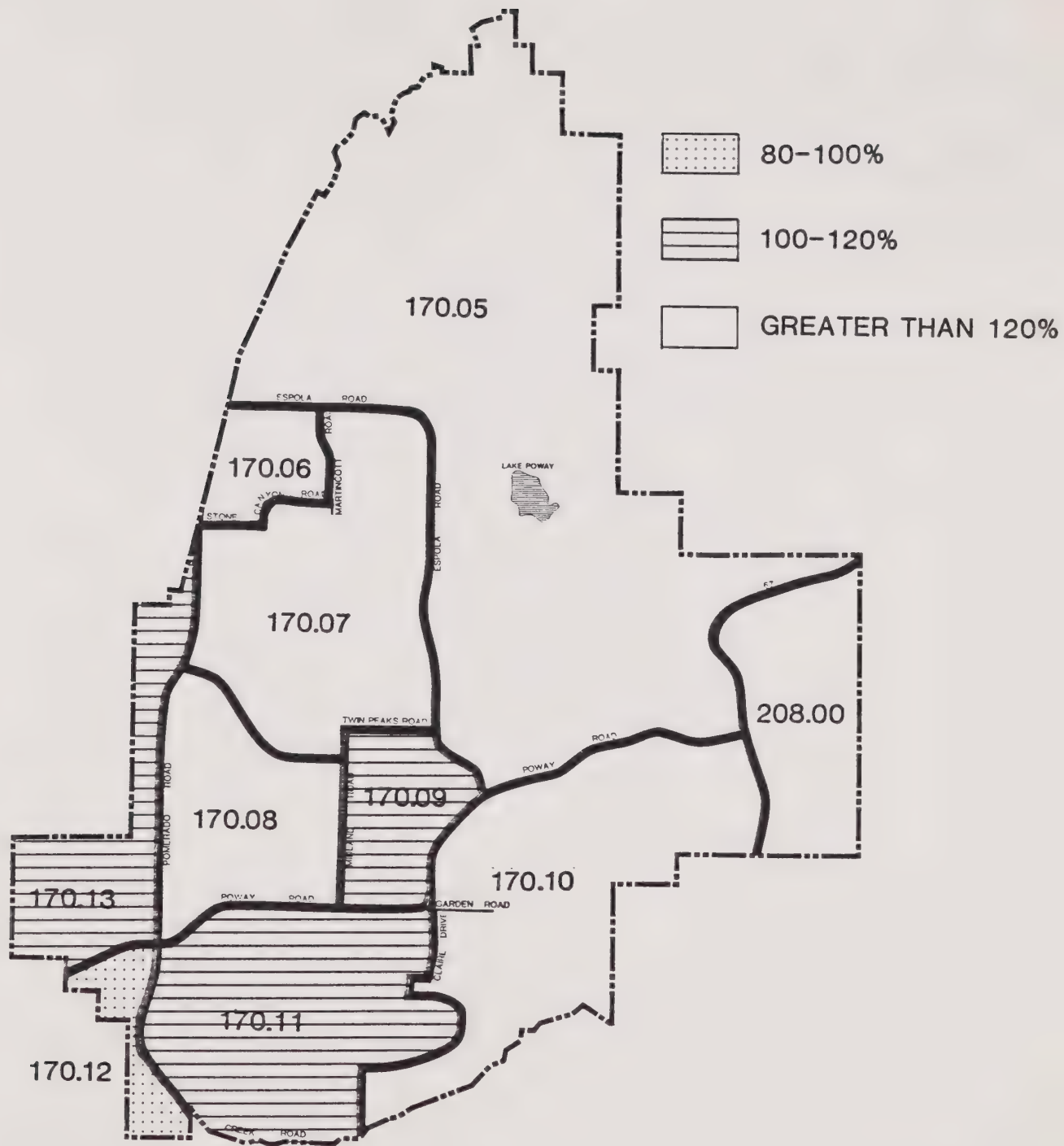
and occupied by these immigrants appears to depend on whether they are seasonal or temporary employees, or more permanent migrants. The former groups will often camp out near their employment sites (fields, or construction sites), or occupy whatever housing is provided by the employer, or share in the rental of a house (typically located on the outskirts of a small town). In the latter case, the studies found that these houses averaged two people per room - higher than the census definition of overcrowding.

More permanent migrants (those with more permanent jobs) are predominantly renters. They rent both houses and apartments and are likely to share with other members of their family or other families or individuals from their home town or village. They too have a tendency to be overcrowded according to the Census definition. Crowding decreases and housing expenditures tend to increase with the length of residence in this country and as the migrants assimilate into this culture and acquire language and work skills.

### Income

Income is one of the most important factors in determining whether a household will be able to find suitable housing in a given area. According to the Bureau of Labor Statistics, between 1970 and 1980, San Diego County incomes increased at 225% but the cost of housing rose 260%. In effect, everyone lost ground, but those at the lower end of the income range suffered the most. TABLE 17 shows the distribution of household incomes in Poway in 1970 and 1980 in comparison to the regional median incomes for those periods. In 1970, the Poway subregional area (which includes Scripps Ranch) had the third highest median income of all fifty-four subregional areas (Elliott/Navajo and Sweetwater were higher). In 1980, the City of Poway had the highest median household income of all cities. TABLE 18 illustrates the income breakdown by census tract and subarea within the City. TABLE 19

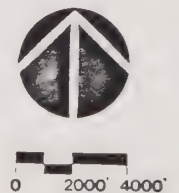




# MEDIAN INCOME

(% OF REGIONAL MEDIAN INCOME)

## CITY OF POWAY

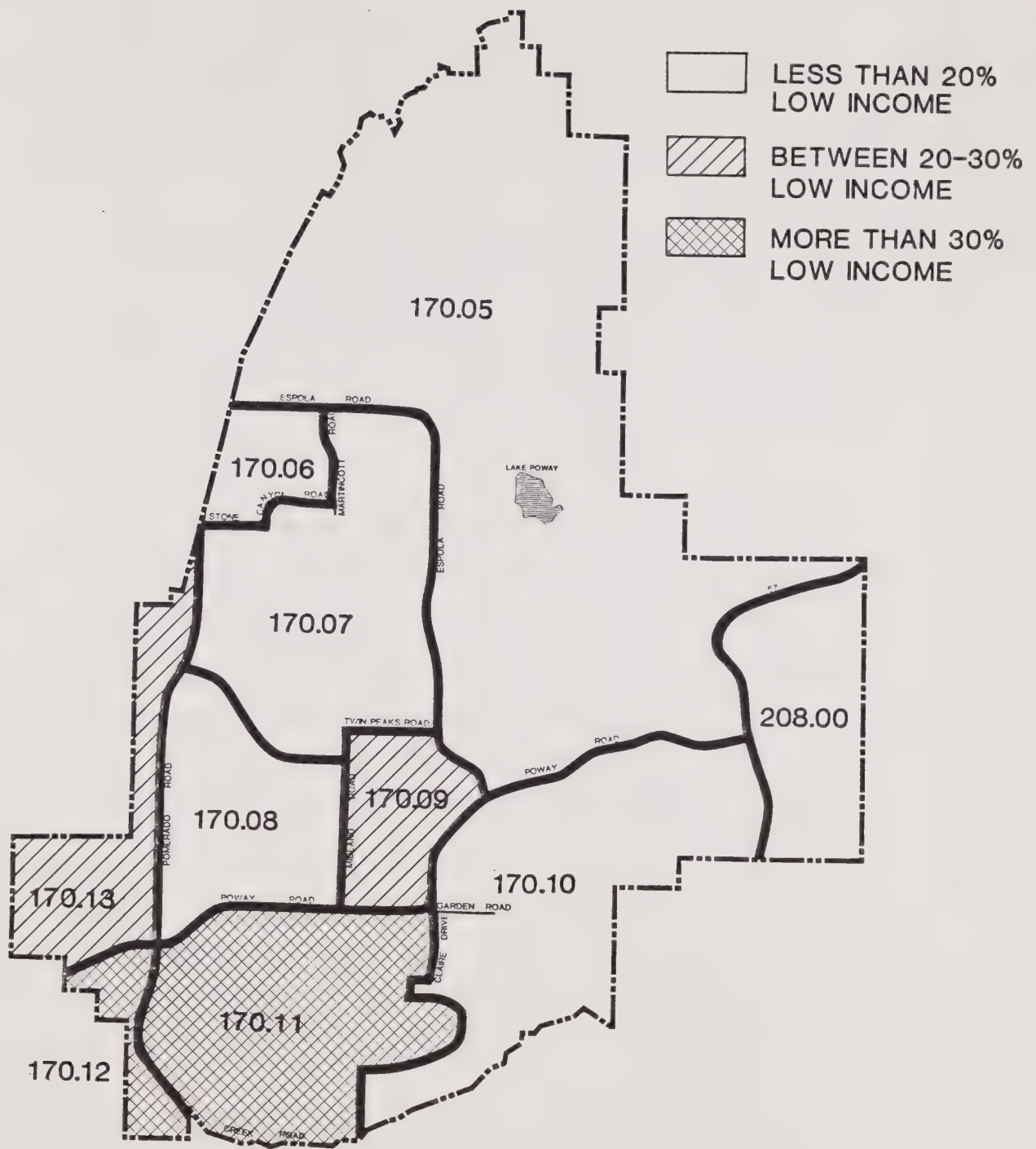


Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 12







# LOW INCOME (% OF HOUSEHOLDS) CITY OF POWAY



0 2000' 4000'

Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 13





shows the median income for each census tract in 1980. The overall figures illustrate that there is a wide income range for each census tract in 1980. There is also a wide variation among census among tracts. While two census tracts have median incomes which

are more than double the regional median of \$17,107 only one has a median which is less than the regional median. The incomes correspond roughly to the housing price information contained in Section V. This information is illustrated on EXHIBIT 12.

EXHIBIT 13 depicts census tracts by percentage of low income households.

The 1980 U.S. Census information also contains calculations of the poverty status of families and individuals not living in families. The income which was defined as the "poverty threshold" is a national standard, not reflective of local or regional variations in the cost of living. These calculations consider only income and do not include the value of possessions (house, stock, etc.). The definition does include variations for family size and the age of the head of the household. TABLE 20 shows the federally defined poverty levels.

Since the cost of living in Southern California is higher than the nation as a whole, and considering the adjustments for family size and age, the census count of persons below the poverty level has a more strict definition than that used in most planning and program eligibility work. With that in mind, TABLE 21 shows poverty status by race; TABLE 22 shows poverty status by age of household head; and TABLE 23 shows poverty status by families with and without children. As was mentioned above, Hispanics represent a higher percentage of the poor (9%) than they do of the City's population as a whole (5.4%). Female-headed households are also disproportionately represented among the poor. However, the proportion of elderly poor is roughly equivalent to the percentage of elderly households in the city.

However low a given household's income, it will not require assistance if it is not paying more than it can afford for housing. This will depend on the spending characteristics of the



household. However, the standard used by the Federal Department of Housing and Urban Development (HUD) and most state and local programs, is that a low income household should not pay more than 25% of its monthly gross income for housing and a moderate income household not more than 30%. Typically, overpayment by owners is not considered as serious as overpayment by renters. Homeowners will eventually get a return on investment and additionally, always have the option of selling to relieve the burden. Renters do not have the same benefits or options. TABLE 24 shows the number and percentage of low and moderate income households which were paying more than 25% of their income for housing in 1970 and 1980. In 1970, approximately 27% of the low income, renter households were paying more than 25% of their income for housing. In 1980, this had risen to 64%.

#### Labor Force and Employment Characteristics

One of the factors that can contribute to an increase in housing demand in an area is an expansion of the employment base. Most households prefer to live near their members' places of employment. Poway is not a major employment center. Information prepared by SANDAG for the Regional Growth Forecast (derived from California Employment Development Department statistics), shows that only 5336 jobs were located in Poway in 1978. TABLE 25 shows their distribution throughout Poway as well as the projected growth in employment in the area. In contrast, the 1980 Census showed 14,968 Poway residents in the labor force.

TABLE 26 shows the employment by industry and TABLE 27 shows the occupation types of Poway residents. Together, they paint a picture of a predominantly middle class community of professionals, administrators, and skilled workers. However, all occupation groups and industries are represented within the city.



Since businesses located within Poway do not employ all of the City's labor force, it is important to know where they are working now in order to understand what market area the City is serving and what the impact of growth elsewhere in the region is likely to be in Poway. TABLE 28 shows the place of work for city residents. More than half (55%) of the Poway work force was employed in the City of San Diego in 1980. Continued expansion of office, commercial, and industrial development in the San Diego communities of Mira Mesa, Scripps Ranch, Rancho Carmel, and Rancho Bernardo will increase this percentage and lead to more people looking for housing in Poway. San Diego's employment expansion will increase the demand for housing development in Poway. The same is true for growth in north and east county, although to a lesser extent because those areas generally have less expensive housing than Poway to meet the demand. TABLE 29 which shows travel time to work, demonstrates that many Poway residents are travelling fairly long distances to work. With the completion of the I-15, State Highway 163 interchange, this time may be reduced somewhat. Alternatively, it may open up other areas to Poway residents. For a significant number of residents, living in Poway has benefits that outweigh a longer travel time to work.



TABLE 7  
POPULATION AND DWELLING UNITS  
1970-1980

<u>AREA</u>	<u>1970 POPULATION</u>	<u>1980 POPULATION</u>	<u>% CHANGE</u>
POWAY (CITY)	13,971	33,436	239%
ESCONDIDO (SRA)	49,747	85,411	172%
NORTH SAN DIEGO (SRA)	8,005	28,216	352%
DEL MAR/MIRA MESA (SRA)	7,936	54,242	683%
ELLIOTT/NAVAJO (SRA)	47,314	77,927	61%
RAMONA (SRA)	5,698	14,949	262%

	<u>1970 DWELLING UNITS</u>	<u>1980 DWELLING UNITS</u>	<u>% CHANGE</u>
POWAY (CITY)	4,072	10,765	264%
ESCONDIDO (SRA)	12,777	34,298	268%
NORTH SAN DIEGO (SRA)	2,866	11,438	399%
DEL MAR/MIRA MESA	2,553	18,607	729%
ELLIOT/NAVAJO (SRA)	11,431	28,286	247%
RAMONA (SRA)	1,791	2,684	150%

SOURCES: 1970 U.S. CENSUS  
1980 U.S. CENSUS

NOTE: SRA = Subregional Areas  
Subregional areas are groups of census tracts defined by SANDAG. Each one contains generally similar development types or defines a submarket area. Exhibit 6 shows subregional areas.





TABLE 8  
POWAY GROWTH RATES  
1970-1980

POPULATION

<u>SUB-AREA</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>% CHANGE</u>
NORTH POWAY	2,447	7,221	10,701	437%
CENTRAL POWAY	6,505	10,876	13,018	200%
SOUTH POWAY	5,019	8,575	9,717	194%

DWELLING UNITS

NORTH POWAY	67	2,097	3,126	462%
CENTRAL POWAY	1,899	3,445	4,205	221%
SOUTH POWAY	1,814	2,578	3,273	180%

SOURCES: 1970 U.S. CENSUS  
1975 SPECIAL CENSUS  
1980 U.S. CENSUS

NOTE: Sub areas are illustrated on Exhibit 6



TABLE 9  
POPULATION AND HOUSEHOLDS  
1970-1980

	<u>1970</u>			<u>1975</u>			<u>1980</u>		
	<u>POP</u>	<u>HH</u>	<u>SIZE</u>	<u>POP</u>	<u>HH</u>	<u>SIZE</u>	<u>POP</u>	<u>HH</u>	<u>SIZE</u>
CITY TOTAL	13971	3645	3.83	26672	7534	3.42	33436	10380	3.17
NORTH POWAY	2447	614	3.94	7221	1919	3.76	10701	3126	3.42
170.05	-	-	-	1963	520	3.44	3277	1067	3.07
170.06	-	-	-	1819	524	3.36	2423	692	3.50
170.07	-	-	-	3439	875	3.93	5001	1367	3.65
CENTRAL POWAY	6505	1698	3.83	10876	3130	3.41	13018	4070	3.20
170.08	-	-	-	7112	1957	3.63	8035	2352	3.42
170.09	-	-	-	2131	693	3.08	3052	1059	2.88
170.13	-	-	-	1633	480	3.25	1931	659	2.93
SOUTH POWAY	5019	1333	3.76	8575	2485	3.45	9717	3184	3.05
170.10	-	-	-	8350	2415	3.45	4456	1238	3.60
170.11	-	-	-	-	-	-	4928	1827	2.70
170.12	-	-	-	225	70	3.23	333	119	2.80

POP = Population

HH = Households

Size = Average population per household

SOURCES: 1970 U.S. Census  
          1975 Special Countywide Census  
          1980 U.S. Census

NOTE: Subareas and census tracts are illustrated on Exhibit 6,7,8,9,  
and 10.



TABLE 10  
AVERAGE HOUSEHOLD SIZE

	<u>1970</u>	<u>1975</u>	<u>1980</u>
POWAY	3.83	3.42	3.17
North	3.94	3.76	3.42
Central	3.83	3.41	3.20
South	3.76	3.45	3.05
ESCONDIDO	2.98	2.80	2.64
NORTH SAN DIEGO	2.44	2.70	2.67
DEL MAR/MIRA MESA	2.83	3.20	3.06
ELLIOTT/NAVAJO	3.72	3.30	2.90
RAMONA	3.16	3.10	3.02

SOURCES: 1970 U.S. Census  
1975 Special Countywide Census  
1980 U.S. Census

NOTE: Subregional areas are shown on Exhibit 6.  
Subareas of Poway are shown on Exhibit 7.



TABLE 11  
1980 HOUSEHOLDS & FAMILIES

	<u>HOUSEHOLDS</u>	<u>FAMILIES</u>	<u>SINGLE PARENT FAMILIES</u>
CITY TOTAL	10380	8861 (85.4%)	1135 (12.7%)
NORTH POWAY	3126	2909 (93%)	209 (7.2%)
170.05	1067	969	57
170.06	692	656	40
170.07	1367	1284	112
CENTRAL POWAY	4070	3371 (82.8%)	551 (16.3%)
170.08	2352	2069	302
170.09	1059	804	158
170.13	659	498	91
SOUTH POWAY	3184	2581 (81.1%)	375 (14.5%)
170.10	1238	1136	137
170.11	1827	1360	225
170.12	119	85	13

SOURCE: 1980 Census

NOTE: Subareas and census tracts are shown on Exhibit 7.





TABLE 12  
INCIDENCE OF LARGE FAMILIES AND OVERCROWDING  
1970-1980

	LARGE FAMILIES		OVERCROWDING	
	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
CITY TOTAL	32%	17.5%	8.9%	2.8%
NORTH	35%	20.2%	5.2%	1.4%
CENTRAL	31.6%	17.1%	9.5%	3.2%
SOUTH	31.6%	15.3%	9.9%	3.6%

SOURCES: 1970 U.S. Census  
          1980 U.S. Census

NOTE: Subareas are shown on Exhibit 7.



TABLE 13  
1980 POPULATION AGE BREAKDOWN  
PERCENTAGES

	<u>0-19</u>	<u>65+</u>	<u>MEDIAN AGE</u>
POWAY	37.9%	4.1%	30.6
North	38.3%	5.0%	n/a
Central	38.6%	3.3%	n/a
South	36.7%	4.3%	n/a
ESCONDIDO (SRA)	28.6%	14.9%	31.6
NORTH SAN DIEGO	28.1%	15.6%	32.0
DEL MAR/MIRA MESA	12.9%	3.6%	27.5
ELLIOTT/NAVAJO	29.7%	5.4%	30.2
RAMONA (SRA)	33.2%	8.1%	28.8

SOURCE: 1980 U.S. Census

NOTE: Subregional areas are shown on Exhibit 6.  
Subareas of Poway are shown on Exhibit 7.



TABLE 14  
1980 HOUSEHOLDS WITH  
ELDERLY (65+) HEADS

	<u>NUMBER</u>	<u>PERCENT</u>
CITY TOTAL	569	5.5%
NORTH POWAY	177	5.6%
170.05	154	14.4%
170.06	7	1.0%
170.07	16	1.2%
CENTRAL POWAY	134	3.3%
170.08	92	3.9%
170.09	22	2.1%
170.13	20	3.0%
SOUTH POWAY	258	3.3%
170.10	38	3.1%
170.11	209	11.4%
170.12	11	9.2%

SOURCE: 1980 U.S. Census

NOTE: Subareas and 1980 Census tracts are shown on Exhibit 7.



TABLE 15  
1970 & 1980 RACE AND ETHNICITY  
POWAY AND SURROUNDING AREAS

1970

<u>AREA</u>	<u>WHITE</u>	<u>BLACK</u>	<u>SPANISH</u>	<u>ASIAN</u>	<u>NATIVE AMERICAN</u>
POWAY (City)	94.45%	0.05%	4.0%	1.2%	0.3%
ESCONDIDO (SRA)	87.8%	0.1%	10.3%	1.2%	0.6%
NORTH SAN DIEGO	95.6%	0.2%	3.6%	0.5%	0.1%
DEL MAR/MIRA MESA (SRA)	91.5%	0.6%	5.8%	1.7%	0.4%
ELLIOTT/NAVAJO (SRA)	92.6%	0.4%	6.0%	0.9%	0.1%
RAMONA (SRA)	84.9%	0.1%	12.1%	1.2%	0.7%
COUNTY	81.7%	4.1%	11.4%	2.5%	0.4%

1980

POWAY (City)	89.72%	1.23%	5.36%	2.85%	0.66%
ESCONDIDO (SRA)	83.7%	0.4%	13.4%	1.6%	1.0%
NORTH SAN DIEGO (SRA)	84.9%	2.6%	5.6%	6.6%	0.3%
DEL MAR/MIRA MESA (SRA)	74.6%	3.0%	8.2%	13.7%	0.5%
ELLIOTT/NAVAJO (SRA)	86.4%	3.1%	5.8%	4.2%	.5%
RAMONA (SRA)	87.9%	0.3%	10.1%	0.5%	1.2%
COUNTY (SRA)	74.0%	5.6%	14.8%	4.8%	0.8%

SOURCES: 1970 U.S. Census  
1980 U.S. Census

NOTE: "White" derived by adding "White" and "other" identified in question on race and subtracting those identified as hispanic language, surname or origin in a separate question from the 1970 and 1980 census. Hispanic people do not represent a separate race, but are considered an ethnic minority in the United States.





TABLE 16  
1980 RACIAL AND ETHNIC GROUPS WITHIN POWAY

<u>AREA</u>	<u>WHITE</u>	<u>BLACK</u>	<u>SPANISH</u>	<u>ASIAN</u>	<u>NATIVE AMERICAN</u>
NORTH POWAY	91.3%	1.1%	4.2%	3.0%	0.4%
170.05	93.0%	0.2%	3.4%	3.0%	0.4%
170.06	93.7%	1.0%	3.2%	1.7%	0.3%
170.07	89.0%	1.8%	5.2%	3.6%	0.4%
CENTRAL POWAY	88.5%	1.5%	5.8%	3.0%	0.8%
170.08	87.9%	1.7%	6.1%	3.5%	0.8%
170.09	91.4%	1.5%	3.6%	2.5%	1.0%
170.13	89.7%	0.4%	7.8%	1.7%	0.3%
SOUTH POWAY	89.6%	1.0%	6.1%	2.5%	0.8%
170.10	89.3%	1.5%	6.3%	2.4%	0
170.11	89.8%	0.7%	5.9%	2.7%	1.0%
170.12	90.7%	0	6.9%	0.3%	2.1%

SOURCE: 1980 U.S. Census

NOTE: "White" derived by adding "White" and "other" identified in question on race and subtracting those identified as hispanic language, surname or origin in a separate question from the 1980 Census.

Exhibit 7 shows subareas within Poway.



TABLE 17  
POWAY  
HOUSEHOLD INCOMES  
1970 & 1980

	<u>1970</u>		<u>1980</u>	
Very Low Income	286	(8.2%)	1349	(13%)
Low Income	235	(6.7%)	830	(8%)
Moderate Income	518	(14.8%)	1868	(18%)
Upper Income	2458	(70.3%)	6332	(61%)
Regional Median Income	\$ 7,627		\$17,107	
Poway Median Income	\$11,797		\$24,076	

SOURCES: 1970 U.S. Census  
1980 U.S. Census

NOTE: Very Low Income = Households earning less than 50% of the regional median income  
(i.e., \$3813 in 1970 and \$8554 in 1980)

Low Income = Households earning between 50% and 80% of the regional median income  
(i.e., \$6102 in 1970 and \$13,686 in 1980)

Moderate Income = Households earning between 80% and 120% of the regional median income (i.e., \$9152 in 1970 and \$20,528 in 1980)

Upper Income = Households earning more than 120% of the regional median income  
(i.e., \$9152 in 1970 and \$20,528 in 1980)



TABLE 18  
1980  
HOUSEHOLD INCOMES

<u>AREA</u>	<u>VERY LOW</u>		<u>LOW</u>		<u>MODERATE</u>		<u>UPPER</u>	
CITY TOTAL	1349	(13%)	830	(8%)	1868	(18%)	6332	(61%)
NORTH POWAY	118	(4%)	132	(4%)	344	(11%)	2532	(81%)
170.05	32	(3%)	21	(2%)	107	(10%)	907	(85%)
170.06	21	(3%)	28	(4%)	42	(6%)	602	(87%)
170.07	68	(5%)	69	(5%)	191	(14%)	1039	(76%)
CENTRAL POWAY	448	(11%)	488	(12%)	855	(21%)	2279	(56%)
170.08	188	(8%)	259	(11%)	423	(18%)	1482	(63%)
170.09	180	(17%)	148	(14%)	254	(24%)	477	(45%)
170.13	78	(12%)	85	(12%)	178	(27%)	318	(48%)
SOUTH POWAY	509	(16%)	414	(13%)	700	(22%)	1561	(49%)
170.10	123	(10%)	62	(5%)	249	(20%)	805	(65%)
170.11	347	(19%)	329	(18%)	438	(24%)	713	(39%)
170.12	30	(25%)	20	(17%)	17	(14%)	52	(44%)

SOURCE: 1980 U.S. Census

NOTE: VERY LOW INCOME = Households earning less than 50% of the regional median income (i.e., less than \$8554)

LOW INCOME = Households earning between 50% and 80% of the regional median income (i.e., between \$8554 and \$13,686)

MODERATE INCOME = Households earning between 80% and 120% of the regional median income (i.e., between \$13,686 and \$20,528)

UPPER INCOME = Households earning more than 120% of the regional median income (i.e., more than \$20,528)



TABLE 19  
1980  
MEDIAN HOUSEHOLD INCOME

POWAY	TOTAL	\$24,076
NORTH:	170.05	\$36,576
	170.06	36,782
	170.07	30,931
CENTRAL:	170.08	\$24,238
	170.09	18,956
	170.13	20,112
SOUTH:	170.10	\$23,236
	170.11	17,217
	170.12	14,837
Regional Median		\$17,107

SOURCE: 1980 U.S. Census

NOTE: Census tracts and subareas are shown on  
Exhibit 7, 8, 9, and 10





TABLE 20

THRESHOLDS AT THE POVERTY LEVEL IN 1979  
BY SIZE OF FAMILY AND NUMBER OF RELATED CHILDREN  
UNDER 18 YEARS OLD

SIZE OF FAMILY	WEIGHTED AVERAGE	RELATED CHILDREN UNDER 18 YEARS								
	THRESHOLD	NONE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8 OR MORE</u>
1 Person (Unrelated Individual)	\$3,686									
Under 65 Years	3,774	\$3,774								
65 Years and Over	3,479	3,479								
2 Persons	4,723									
Householder Under 65 Years	4,876	4,858	\$5,000							
Householder 65 Years and Over	4,389	4,385	4,981							
3 Persons	5,787	5,674	5,839	\$5,844						
4 Persons	7,412	7,482	7,605	7,356	\$7,382					
5 Persons	8,776	9,023	9,154	8,874	8,657	\$8,525				
6 Persons	9,915	10,378	10,419	10,205	9,999	9,693	\$9,512			
7 Persons	11,237	11,941	12,016	11,759	14,580	11,246	10,857	\$10,429		
8 Persons	12,484	13,356	13,473	13,231	13,018	12,717	12,334	11,936	\$11,835	
9 Persons or More	14,812	16,066	16,144	15,929	15,749	15,453	15,046	14,677	14,586	\$14,024



TABLE 21  
POVERTY STATUS BY RACE  
AND ETHNICITY, 1980

	<u>PERSONS ABOVE POVERTY LEVEL</u>	<u>PERSONS BELOW POVERTY LEVEL</u>	
WHITE	28,412	1,556	(92.7%)
BLACK	512	5	(0.3%)
NATIVE AMERICAN	311	22	(1.3%)
ASIAN	762	53	(3.1%)
HISPANIC	1,602	151	(9.0%)
TOTAL	30,419	1,678	

SOURCE: U.S. Census

NOTE: Columns do not sum to total because persons of Hispanic origin are also included in the various racial categories

Tabulations exclude persons living in group quarters (jails, barracks, dormitories, convents, etc.) and and unrelated individuals under 15 years of age.



TABLE 22  
POVERTY STATUS BY  
AGE OF HOUSEHOLDER  
1980

CITY	HOUSEHOLDS WITH HEAD <u>15 TO 64 YEARS</u>				HOUSEHOLDS WITH HEAD <u>65 + YEARS</u>			
	<u>BELOW POVERTY</u>		<u>100-124% POVERTY</u>		<u>BELOW POVERTY</u>		<u>100-124% POVERTY</u>	
	495	5%	169	1.7%	31	5.4%	32	5.6%
NORTH	77	2.6%	14	0.5%	0	0	0	0
170.05	21		0		0		0	
170.06	14		0		0		0	
170.07	42		14		0		0	
CENTRAL	230	5.8%	75	1.9%	10	7.5%	7	5.2%
170.08	116		43		0		0	
170.09	72		13		10		0	
170.13	42		19		0		0	
SOUTH	188	6.4%	80	2.7%	21	8%	25	9.7%
170.10	88		10		0		0	
170.11	94		63		21		25	
170.12	6		7		0		0	

SOURCE: 1980 U.S. Census

NOTE: See text for definition of poverty status.



TABLE 23

## POVERTY STATUS BY FAMILY TYPE

1980

	<u>CITY</u>	<u>NORTH</u>	<u>170.05</u>	<u>170.06</u>	<u>170.07</u>	<u>CENTRAL</u>	<u>170.08</u>	<u>170.09</u>	<u>170.13</u>	<u>SOUTH</u>	<u>170.10</u>	<u>170.11</u>	<u>170.12</u>
TOTAL ABOVE													
POVERTY	8271	2705	765	660	1280	3202	2019	716	467	2364	1012	1261	91
with children	5210	1680	351	430	899	2090	1418	411	261	1440	722	667	51
without children	3061	1025	414	230	381	1112	601	305	206	924	290	594	40
TOTAL BELOW													
POVERTY	403	64	21	14	29	187	91	74	22	152	84	68	0
with children	338	54	11	14	29	163	85	62	16	121	76	45	0
without children	65	10	10	0	0	24	6	12	6	31	8	23	0
TOTAL FEMALE- HEADED ABOVE													
POVERTY	712	154	34	26	89	356	181	100	75	202	76	114	12
with children	477	97	8	16	73	237	117	62	58	143	71	60	12
without children	235	57	26	10	31	119	64	38	17	59	5	54	0
TOTAL FEMALE- HEADED BELOW													
POVERTY	198	33	7	10	16	80	37	38	5	85	53	32	0
with children	198	33	7	10	16	80	37	38	5	85	53	32	0
without children	0	0	0	0	0	0	0	0	0	0	0	0	0

SOURCE: 1980 U.S. Census

NOTE: See text for definition of poverty status.  
Subareas and census tracts are shown on Exhibit 7.





TABLE 24  
HOUSING EXPENDITURES AS A PERCENTAGE OF INCOME  
1970 & 1980

<u>HOUSEHOLD INCOME/ HOUSING COSTS</u>	<u>1970 RENTER</u>	<u>1980 RENTER</u>	<u>OWNER</u>
Income Less than \$5000			
spent less than 24%	0	12	0
spent 25 - 34%	23	12	0
spent 35% or more	108	205	111
Income \$5000-\$9999			
spent less than 24%	89	29	46
spent 25-34%	103	21	21
spent 35% or more	13	353	164
Income \$10,000-\$14,999			
spent less than 24%	90	81	133
spent 25-34%	16	201	78
spent 35% or more	0	153	193
Income \$15,000-\$19,999			
spent less than 24%	105	237	204
spent 25-34%	0	114	132
spent 35% or more	0	60	399
Income \$20,000 or more	n/a		
spent less than 24%	n/a	596	3191
spent 25-34%	n/a	120	1087
spent 35% or more	n/a	11	636

NOTE: The 1970 census calculated percentages for renters only. It also had "\$15,000 or more" as the top range. The columns do not sum to the total number of households because those with no cash rent are not included and only single family, non-condominium units on lots less than 10 acres in size are included as owner units.



TABLE 25  
EMPLOYMENT PROJECTIONS  
1978-2000

EMPLOYMENT					
<u>AREA</u>	<u>1978</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
CITY	5,336	8,614	11,778	14,941	16,168
NORTH	654	1,025	1,613	2,200	2,231
CENTRAL	1,407	2,147	3,138	4,128	4,462
SOUTH	3,275	5,442	7,027	8,613	9,475
ESCONDIDO		32,090	37,041	40,058	43,076
NORTH SAN DIEGO		14,076	23,754	25,371	26,987
DEL MAR/MIRA MESA		17,094	28,506	31,824	35,141
ELLIOT/NAVAJO		20,518	25,772	26,752	28,031
RAMONA		2,613	2,775	2,934	3,093

SOURCE: SANDAG Series 5 Regional Growth Forecast

NOTE: Projections are not provided at any finer level than 1970 census tracts. SANDAG projections were adjusted to reflect the proportion of each census tract within the City of Poway. Exhibit 7 shows subareas within the City and Exhibit 6 shows subregional areas.



TABLE 26  
EMPLOYMENT BY INDUSTRY

	<u>1970</u>		<u>1980</u>	
AGRICULTURE CONSTRUCTION AND MINING	327	7%	1049	7.6%
MANUFACTURING	1277	28.3%	2672	19.5%
TRANS., UTILITIES, COMMUNICATION	212	4.7%	896	6.5%
TRADE	846	18.7%	2914	21.2%
FINANCE, INS., R.E.	212	2.7%	1167	8.5%
SERVICES	1189	26.3%	4245	30.9%
PUBLIC ADMIN	296	6.5%	785	5.7%
OTHER	159	3.5%		

SOURCES: 1970 U.S. Census  
1980 U.S. Census

NOTE: Members of the armed forces are not included in this table, although they are considered a part of the labor force.



TABLE 27  
OCCUPATION  
1980

<u>OCCUPATION GROUP</u>	<u>CITY</u>	<u>NORTH</u>	<u>CENTRAL</u>	<u>SOUTH</u>
Managerial & Professional				
Executives	2073	891	766	416
Professionals	2098	790	856	452
Technical, Sales, & Administrative Support				
Technicians	745	262	322	161
Sales	1775	665	684	426
Admin. Support	2348	540	1063	745
Services				
Household	62	16	27	19
Protective	216	50	99	72
All Other	1523	346	761	411
Farm, Fishing, Forestry	131	30	65	36
Precision Production & Repair	1690	355	735	600
Operators, Fabricators, & Laborers				
Machinery	768	194	294	280
Transportation	355	36	200	119
Handlers & Laborers	444	103	178	163

SOURCE: 1980 U.S. Census

NOTE: Exhibit 7 shows subareas.





TABLE 28  
PLACE OF WORK  
1980

<u>SUBAREA</u>	<u>POWAY</u>		<u>S.D. CITY</u>		<u>OTHER S.D. COUNTY</u>		<u>OUTSIDE COUNTY</u>		<u>NOT REPORTED</u>	
CITY TOTAL	2837	(19%)	8192	(55%)	2614	(17%)	399	(3%)	926	(6%)
NORTH	871	(20%)	2424	(55%)	651	(15%)	129	(3%)	302	(7%)
170.05	218		677		178		6		49	
170.06	195		580		118		35		35	
170.07	458		1167		355		88		218	
CENTRAL	1203	(19%)	3549	(55%)	1151	(18%)	152	(2%)	385	(6%)
170.08	718		2209		625		116		240	
170.09	268		682		365		36		94	
170.13	217		658		161		0		51	
SOUTH	763	(18%)	2219	(53%)	812	(20%)	118	(3%)	239	(6%)
170.10	316		1080		358		27		45	
170.11	385		1091		414		85		189	
170.12	62		48		40		6		5	

SOURCE: 1980 U.S. Census

NOTE: Subareas and census tracts are shown on Exhibit 7.  
"Outside County" includes adjacent counties (Orange, Riverside) as well as (for example) airline personnel or members of the armed forces who are based elsewhere.



TABLE 29  
TRAVEL TIME TO WORK  
1980

<u>AREA</u>	<u>Less Than 10 min</u>	<u>10-19</u>	<u>20-29</u>	<u>30-44</u>	<u>45-59</u>	<u>60 +</u>
CITY TOTAL	1792	3635	3636	4181	1058	386
NORTH	667	1147	820	1201	345	115
170.05	175	316	226	292	77	25
170.06	169	261	139	252	93	28
170.07	323	570	455	657	175	62
CENTRAL	727	1586	1674	1668	422	231
170.08	532	835	1096	986	269	113
170.09	88	367	293	463	115	101
170.13	107	384	285	219	38	17
SOUTH	398	902	1142	1312	291	40
170.10	126	363	585	601	109	19
170.11	228	523	522	673	140	21
170.12	44	16	35	38	22	0

SOURCE: 1980 U.S. Census

NOTE: Subareas and census tracts are shown on Exhibit 7.



# HOUSING STOCK CHARACTERISTICS



# HOUSING STOCK CHARACTERISTICS

The housing needs of a community are defined by the gap between the type of housing needed by its residents and the type of housing available to them. Generally housing need is defined in terms of unit size, cost, and condition. This section describes the characteristics of the City's existing housing stock as revealed in census information and from land use and market surveys.

Although Poway has more than tripled in size since 1970, the type of residential development remains predominantly single family detached (see TABLE 30 for a breakdown). In contrast, the County as a whole has shifted from just under 70% single family to approximately 50% single family units in the same time period.

## Rental Housing

In regard to rental housing, the City is atypical in that most jurisdictions in the County have a fairly high percentage of rentals as opposed to owner-occupied units. Poway has remained predominantly owner occupied as depicted in TABLE 31 which compares Poway to other jurisdictions.

In Poway, the percentage of units which are owner occupied has not changed significantly. The number and percentage of renter occupied units has increased, and the vacancy rate has decreased. Rental units are attractive to low and moderate income households which cannot afford to buy a unit, people who do not want the responsibilities of home maintenance (such as young people just starting out and the elderly), and households which know that they will not be in a given location for long (the military). There are 27 apartment complexes with 1109 units. TABLE 32 gives a breakdown of the number of units, size, and rents (as of August, 1982), for these complexes. Exhibit 14 shows the location of apartments in the City. Since these units represent





only 10.3% of the total in the City, it is clear that a sizeable number of single-family homes, condominiums, and mobile homes are also rented out. TABLE 33 shows the number of owner and renter occupied units broken down by unit type as revealed in the 1980 Census. Finally, given the smaller average size of the available apartments (2 bedrooms), it is clear that the City needs a substantial number of three, four, or more bedroom homes for rent in order to meet the needs of larger families who cannot or choose not to buy a home.

### Vacancy

In addition to the U.S. Census, the Federal Home Loan Bank of San Francisco conducts a survey of housing construction and vacancy rates approximately on an annual basis. The most recent Housing Vacancy Survey for San Diego County was completed in October, 1981. The survey is carried out by the U.S. Postal Service and the basic reporting unit is the zip code zone. For Poway, this area includes some unincorporated areas which are not a part of the City and omits portions of the northwestern part of the City. None the less, it is a fairly accurate picture of the vacancy rate in the City. It revealed an overall vacancy rate of 2.4%. Generally, 4% to 5% is considered necessary for a healthy housing market. Much below this level is considered a "tight" housing market in which it is difficult for households to locate adequate housing. And the opposite (over 7% vacancy rate) is considered to be overbuilding with attending economic problems for builders. TABLE 34 shows the vacancy rate for Poway and surrounding areas.

### Housing Conditions

As a part of this study, a survey was made of the exterior conditions of all housing units in Poway. Although such a survey will not reveal interior problems (for example, problems with plumbing and wiring) it is generally the case that the interior and exterior of a unit wear at the same rate. Therefore, the



resulting figures can be taken as an overall indication of the housing condition problems of the community.

For the purposes of this study, housing conditions were divided into three categories based on the Uniform Housing Code:

Level A - Good Condition. Needing at most minor repairs  
(painting, clean up)

Level B - Needing some repair, but the value of the repairs does not amount to more than 50% of the value of the structure

Level C - Needing major repairs. The total cost of repairs would exceed 50% of the value of the structure

Using these classifications, a visual survey of the exterior of the housing units in the City was completed. Exhibit 15 and 15A shows the results of the survey. Most of the housing in Poway was built within the past ten years. TABLE 35 shows the age of housing and tenure type. The housing units have not for the most part been used (or abused) such that there are significant problems. Most of the units needing repair are Level B - manageable repairs.

One of the most surprising facts for those conducting the survey was the lack of concentration of units needing repair or replacement. They are scattered throughout the City. Units in need of significant repair frequently were located in close proximity to well-maintained units - even in smaller lot subdivisions. In this respect, the City is fortunate in not having areas of concentration of housing deterioration. However, as the housing stock ages, problems could increase, particularly in areas which already have a number of maintenance problems today.





# LEGEND

- APARTMENTS
- MOBILE HOMES (INSIDE A PARK)

## APARTMENTS & MOBILE HOMES

1. MARILITA HANOR 10 UNITS	13. ORANGE GARDENS 52 UNITS	25. CANYON VIEW APARTMENTS 44 UNITS
2. OLIVE TREE LANE 40 UNITS	14. PARK POWAY 25 UNITS	26. THE PINES 8 UNITS
3. SILVER OAK 153 UNITS	7. IAK KNOLL VILLAS 52 UNITS	27. UNNAPEL 4 UNITS
4. VILLA VERDE 58 UNITS	16. HOLLYDALE 52 UNITS	18. PUMRADO OAKS
5. VALLEY POWAY 44 UNITS	17. BOWDER OAKS 58 UNITS	29. POWAY ROYAL ESTATES
6. LA PREYADA 24 UNITS	18. WESTSIDE 40 UNITS	30. POINSETTIA MOBILE HOME CLUB
7. POWAY VILLAS 60 UNITS	19. POWAY PALMS 24 UNITS	31. HALEY'S TRAILER RANCH
8. CARRIAGE ARMS 25 UNITS	20. UNNAPEL 28 UNITS	
9. CARRIAGE VILLAGE 25 UNITS	21. PUMRADO GARDENS 36 UNITS	
10. CARRIAGE ROAD 53 UNITS	22. CASA ANITA 34 UNITS	
11. CARRIAGE HOUSE 16 UNITS	23. SAN ANTONIO 20 UNITS	
12. CARRIAGE PINES 10 UNITS	24. VALLEY VERDE TRUNKS CLUB 40 UNITS	

# APARTMENT AND MOBILE HOME LOCATIONS CITY OF POWAY

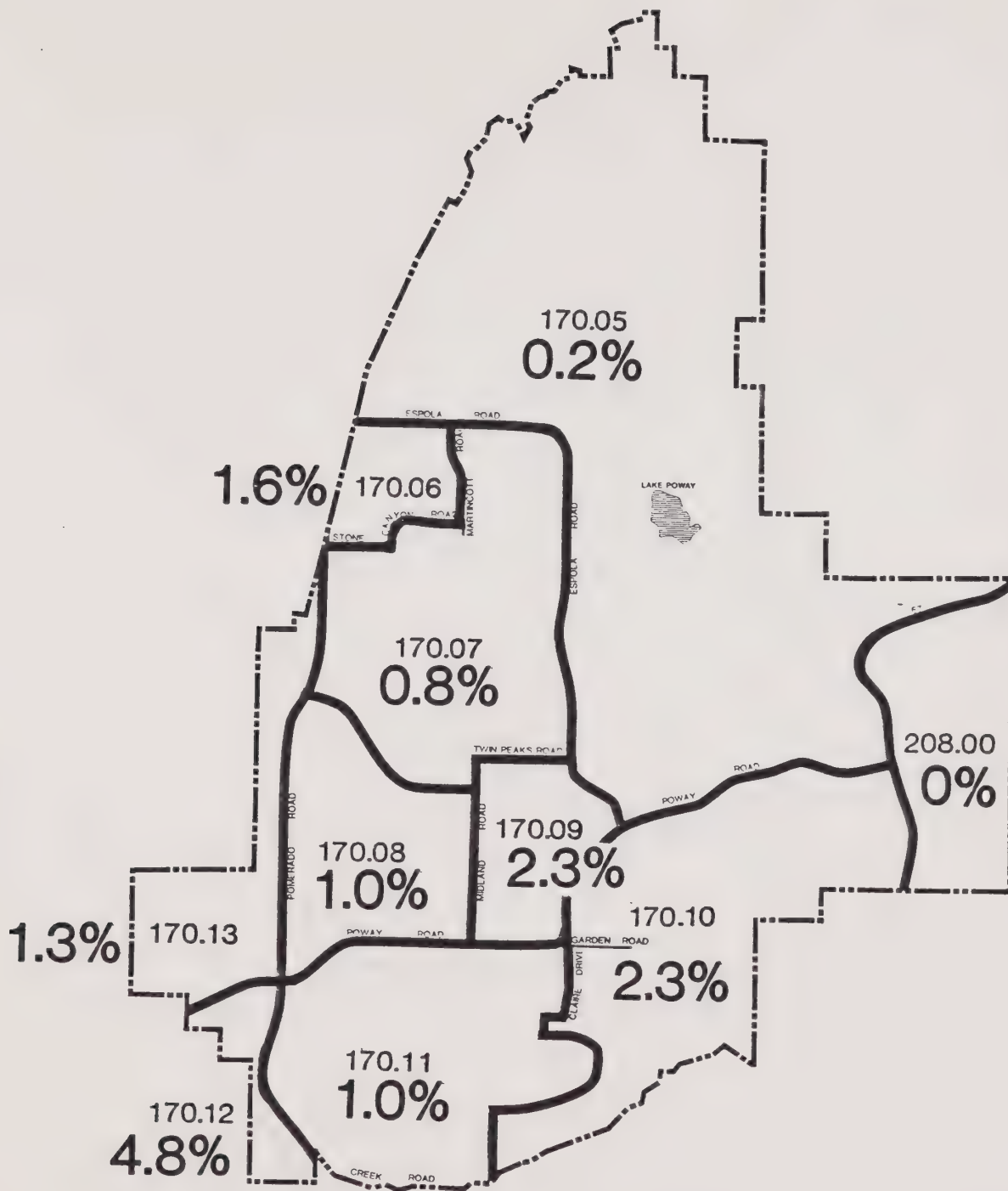
EXHIBIT 14



OCTOBER 1982

PHELPS COMPANY INC.  
VAN DELL AND ASSOCIATES, INC.





PERCENT OF HOUSING AT LEVEL B

# HOUSING CONDITION CITY OF POWAY



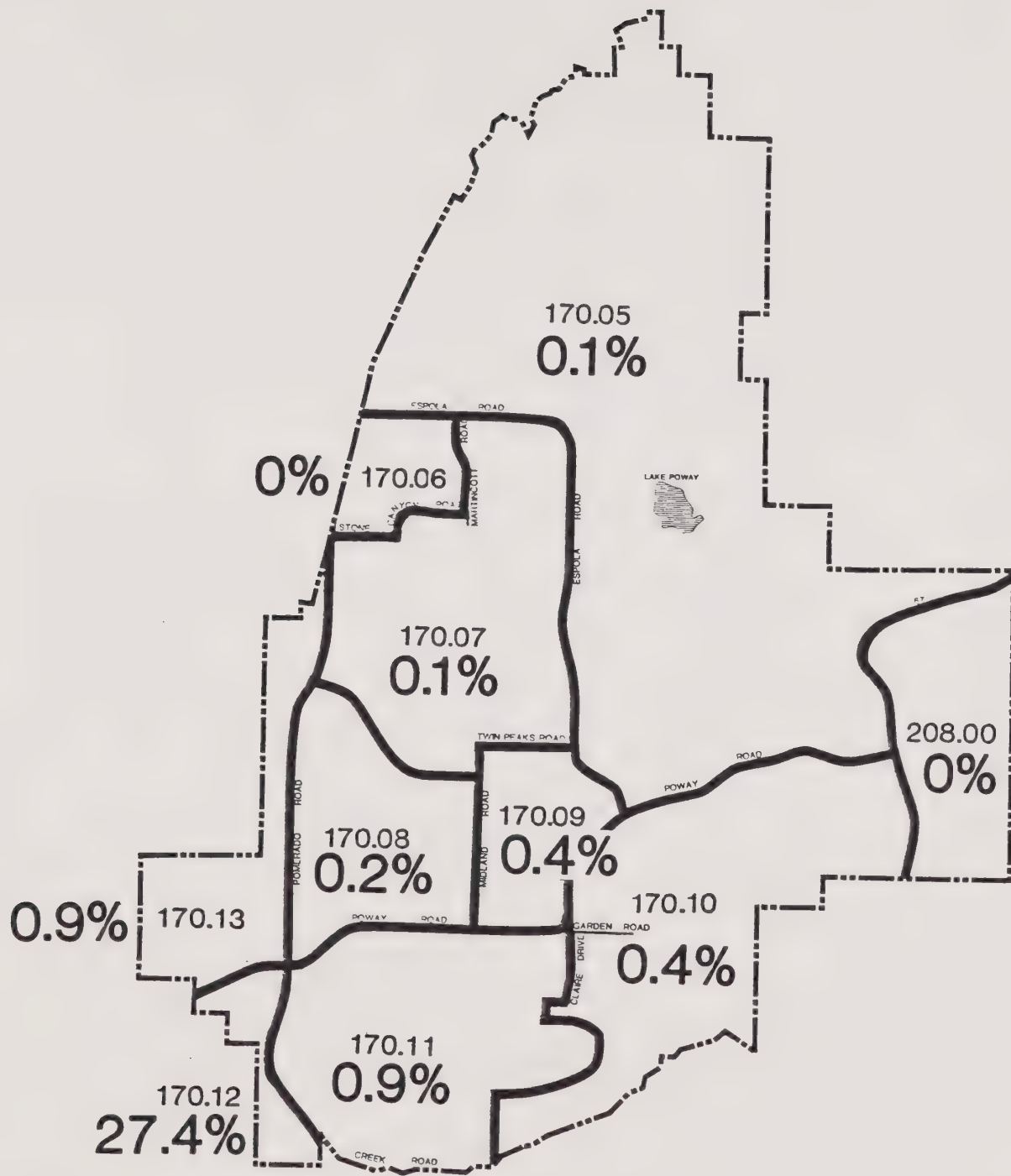
0 2000' 4000'

Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 15







PERCENT OF HOUSING AT LEVEL C

# HOUSING CONDITION CITY OF POWAY



0 2000' 4000'

Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 15A



TABLE 30  
HOUSING UNIT TYPE  
1970-1980

<u>AREA</u>	<u>1970 %</u>			<u>1975 %</u>			<u>1980 %</u>		
	SF	MF	MH	SF	MF	MH	SF	MF	MH
POWAY (City)	87	5	8	84	8	8	80	14	6
NORTH	99	1	0	94	6	0	97	3	0
CENTRAL	96	4	0	86	7	7	78	17	5
SOUTH	76	7	17	74	11	15	67	20	13
ESCONDIDO	71	17	12	60	25	15	60	28	12
NORTH SAN DIEGO	75	25	0	63	37	0	74	26	0
DEL MAR/MIRA MESA	79	21	0	87	11	2	not available		
ELLIOT/NAVAJO	91	6	3	76	22	2	not available		
RAMONA	90	4	6	87	5	7	81	11	8
SAN DIEGO COUNTY	68	27	5	60	34	6	61	34	5

SOURCES: 1970 U.S. Census  
          1975 Special Census  
          1980 U.S. Census

NOTE: SF = Single Family  
      MF = Multi Family  
      MH = Mobile Home

Subareas and census tracts are shown on Exhibit 7.  
Subregional areas are shown on Exhibit 6.



TABLE 31  
HOUSING TENURE  
1970-1980

<u>AREA</u>	1970			1980		
	<u>OWN</u>	<u>RENT</u>	<u>VACANT</u>	<u>OWN</u>	<u>RENT</u>	<u>VACANT</u>
POWAY (City)	75%	15%	10%	73%	23%	4%
NORTH	82%	8%	9%	86%	9%	5%
CENTRAL	80%	15%	10%	70%	27%	3%
SOUTH	70%	19%	11%	69%	28%	3%
ESCONDIDO (SRA)	not available		7%	57%	36%	7%
N. SAN DIEGO (SRA)	"	"	19%	64%	29%	8%
DEL MAR/MIRA MESA (SRA)	"	"	19%	63%	32%	5%
ELLIOTT/NAVAJO (SRA)	"	"	4%	64%	30%	6%
RAMONA (SRA)	"	"	9%	67%	22%	11%
SAN DIEGO COUNTY	53%	41%	6%	51%	42%	7%

SOURCES: 1970 U.S. Census  
1980 U.S. Census



TABLE 32  
POWAY  
MULTIFAMILY RENTAL UNITS  
August, 1982

<u>COMPLEX</u>	<u>NUMBER OF UNITS/RENT</u>					<u>PARKING SPACES</u>	<u>VACANT UNITS</u>
	<u>STUDIO</u>	<u>1 BR</u>	<u>2 BR</u>	<u>3 BR</u>	<u>TOTAL</u>		
1. MARLETTA MANOR 13657 Cynthia	0	8 \$290	30 \$340	0	38	55	0
2. OLIVE TREE LANE 13255 Olive Tree Lane	1 \$285	0 \$375	38 \$355	1	40	59	3
3. SILVER OAK 18409 Midland Road	0	104 \$330	73 \$395	16 \$475	193	425	11
4. VILLA VERDE 13326 Community	0	31 \$340	27 \$380	0	58	84	1
5. VALLE POWAY 13312 Community	0 0	8 \$300	32 \$350	4 \$450	44	64 marked 8 unmarked	0
6. LA PRIVADA 13240 Community	0	10 \$300	14 \$350	0	24	26	0
7. POWAY VILLAS 1300 Bowron	0 \$ . . .	16 RENTS	20 DEPENDENT ON	24 INCOME	60	100	1
8. CARRIAGE ARMS 13221 Carriage Road	2 \$250	16 \$310	7 \$350	0	25	28 marked 5 unmarked	0
9. CARRIAGE VILLAGE 13126 Carriage Road	0	0	25 \$335	0	25	40	3
10. CARRIAGE ROAD 13130 Carriage Road	2 \$210	12 \$295	39 \$330/335	0	53	83	0
11. CARRIAGE HOUSE 13112 Carriage Road	1 \$200	2 \$310	12 \$350	1 \$375	16	23	0
12. CARRIAGE PINES 13042 Carriage Road	0	4 \$305	12 \$355	0	16	16	0
13. ORANGE GARDENS 12510 Oak Knoll Road	0	22 \$350	27 \$425	3 \$475	52	76 marked 8 unmarked	0
14. PARK POWAY 12529 Oak Knoll Road	0 0	10 \$300	16 \$330	0	26	24	0





COMPLEX	NUMBER OF UNITS/RENT					PARKING SPACES	VACANT UNITS
	STUDIO	1 BR	2 BR	3 BR	TOTAL		
15. OAK KNOLL VILLAS 12509 Oak Knoll Road	0	0	52 \$350	0	52	68	1
16. HOLLYDALE 12455 Oak Knoll Road	0	12 \$310	40 \$385	0	52	80	0
17. BOULDER OAKS 12429 Oak Knoll Road	0	14 \$310	42 \$385	0	56	80	0
18. WESTSIDE 12430 Oak Knoll Road	1 \$240	1 \$280	38 \$350/360	0	40	55	1
19. POWAY PALMS 12500 Oak Knoll Road	0	9 \$296	15 \$385	0	24	44 marked 10 unmarked	1
20. UNNAMED 12440 Oak Knoll Road	0	4 \$325	25 \$355/390	0	29	43	2
21. POMERADO GARDENS 12340 Ninth Street	0	20 \$270	14 \$315	2 \$386	36	56	0
22. CASA ANITA 12345 Pomerado	0	14 \$285	20 \$375/425	0	34	42	2
23. SAN ANTONIO 12349 Pomerado	0	6 \$310	14 \$375/425		20	28	0
24. VALLE VERDE TENNIS CLUB 13608 Pomerado 13626 Pomerado 13628 Pomerado	0	16 \$320 \$320 \$320	24 \$390 \$390 \$390	0	40	56	1
(an additional 86 have been approved for conversion to condos)							
25. CANYON VIEW APTS. 12745 ROBISON	0	28 \$365	16 \$430	0	44	70	0
26. THE PINES 12025 Poway Rd.	0	8 \$300	0	0	8	9	0
27. UNNAMED 12551 Oak Knoll Road	0	0	4 \$325	0	4	6	0
TOTAL UNITS					1109		

SOURCE: Phelps/Van Dell survey, August, 1982

NOTE: Exhibit 10 shows the location of apartments and mobile homes.  
Poway Villas is a federally subsidized housing development.  
Tenants pay no more than 25% of their income in rent.



TABLE 33  
TENURE BY UNITS IN STRUCTURE  
1980

<u>AREA</u>	<u>Single-family</u>		<u>2-4 Units</u>		<u>5+ Units</u>		<u>Mobilehome</u>	
	<u>OWN</u>	<u>RENT</u>	<u>OWN</u>	<u>RENT</u>	<u>OWN</u>	<u>RENT</u>	<u>OWN</u>	<u>RENT</u>
CITY	87%	13%	28%	72%	13%	87%	96%	4%
NORTH	91%	9%	40%	60%	89%	11%	NONE	
170.05	92%	8%	40%	60%	100%	0	NONE	
170.06	94%	6%	NONE		60%	40%	NONE	
170.07	89%	11%	NONE		64%	36%	NONE	
CENTRAL	85%	15%	26%	74%	5%	95%	96%	4%
170.08	84%	16%	24%	76%	7%	93%	NONE	
170.09	87%	13%	0	100%	5%	95%	96%	4%
170.13	85%	15%	65%	35%	5%	95%	NONE	
SOUTH	84%	16%	27%	73%	10%	90%	97%	3%
170.10	85%	15%	100%	0	100%	0	NONE	
170.11	83%	17%	0	100%	6%	94%	96%	4%
170.12	88%	12%	NONE		0	100%	100%	0

SOURCE: 1980 U.S. Census

NOTE: Census tracts and subareas are shown on Exhibit 7, 8, 9 and 10.



TABLE 34  
HOUSING VACANCY  
1981

<u>AREA</u>	TOTAL		UNITS	SINGLE FAMILY			MULTI-FAMILY			MOBILEHOMES	
	<u>NO.</u>	% VAC	% U.C.	<u>NO.</u>	% VAC	% U.C.	<u>NO.</u>	% VAC	% U.C.	<u>NO.</u>	% VAC.
POWAY (92064)	10,910	2.4	0.4	8285	1.7	0.1	1801	4.7	2.1	824	4.2
R. BERNARDO (92127)	2,198	4.7	7.3	1268	2.7	8.7	930	7.4	5.4	NONE	
(92128)	5,989	2.9	2.6	3803	1.8	0.2	2186	5.0	6.9	NONE	
R. PENASQUITOS (92129)	6,696	0.9	4.9	4497	0.7	6.1	2199	1.3	2.3	NONE	
71 SCRIPPS RANCH- MIRAMAR (92131)	2,570	4.2	6.9	1692	5.1	8.6	878	2.4	3.6	NONE	
RAMONA (92075)	5,586	8.8	0.5	4406	3.5	0.6	778	35.7	0	402	14.2
ESCONDIDO	35,348	2.1	1.2	19,979	1.9	1.9	10,915	3.1	0.3	4,454	1.0

SOURCE: Federal Home Loan Bank of San Francisco  
"HOUSING VACANCY SURVEY", October 7, 1981.

NOTE: Areas are defined by zip codes and therefore are not equivalent to communities. Survey is performed by the U.S. Postal Service.

U.C. = Under Construction

% VAC = Percent Vacant



TABLE 35  
TENURE BY AGE OF STRUCTURE

<u>AGE</u>	<u>TOTAL UNITS</u>	<u>% RENTED</u>	<u>% OWNED</u>	<u>% VACANT</u>
1979 - March 1980	294	12%	71%	17%
1975 - 1978	2660	29%	65%	6%
1970 - 1974	4166	18%	80%	2%
1960 - 1969	2572	19%	78%	3%
1950 - 1959	938	24%	75%	0.6%
1940 - 1949	48	55%	45%	0
1939 - or earlier	87	54%	34%	12%
 TOTAL	 10,765			

SOURCE: 1980 U.S. Census





# MARKET ANALYSIS



# MARKET ANALYSIS

Housing market areas do not necessarily follow municipal or neighborhood boundaries and must be defined by their interrelationships. In other words, if a major decision made in one jurisdiction normally has an impact in another; then these two areas are considered to be in the same market area. For example, the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, and several state agencies consider the whole of San Diego County to be one market area. It is true, there are many people who work in downtown San Diego and live in Jamul, Alpine, Ramona, Poway, Fallbrook, Oceanside, and points in between. As a result, extensive growth or limitations on growth in one or another area will have an impact on the demand for housing within the entire County.

However, further examination of the County reveals that there are several submarket areas focused on regional employment centers. The boundaries of these submarket areas will expand and change as development continues to occur in the County. This study indicates that Poway is at a point of intersection or transition between several submarket areas (EXHIBIT 16) or types. One area is that represented by the northern portions of the City of San Diego (i.e., Rancho Bernardo, Rancho Penasquitos, and Scripps Ranch) which is urban or suburban in character with higher density residential development (5 or more units per acre) and includes supporting office and commercial centers. Poway's participation in this market area is shown by the fact that 55% of its labor force reported working in the City of San Diego in 1980.

Another market area is represented by Ramona - a rural community whose townsite is small and designed to serve an agricultural or tourist/recreational population. Most of the population is scattered on farms and large lot subdivisions. Finally there is the "small town" market common in Escondido, San Marcos, etc. These smaller cities serve as the focus for surrounding





# SUBMARKETS CITY OF POWAY



Phelps Company Inc.  
Van Dell and Associates, Inc.

EXHIBIT 16



agriculture (and contain a number of agriculture related industries). Since these communities have industries other than agriculture and people who provide professional and business services to them (lawyers, warehousing, freight services, etc.) they have higher density suburban development to house these people. However, each also includes large lot subdivisions and farms.

Poway was clearly a rural town as recently as the early 1970's. There is still substantial acreage devoted to agriculture. However, the development during the past decade has changed the City's character. Poway now seems to attract and provide housing for people who want the open spaces and rural agricultural life, people who want a small town atmosphere, and those seeking pleasant suburban housing near their work places in north San Diego.

There is extensive development planned and underway just outside Poway's city limits in Rancho Penasquitos, Rancho Carmel, Rancho Bernardo and Sabre Springs. Some of these include substantial office and commercial development. For this reason, it is anticipated that all of the development shown on EXHIBIT 2 will occur and probably within the next 20 years. It is also anticipated that Poway will function increasingly as a part of the north San Diego urban/suburban market. Housing prices and development types will more closely resemble this market area than the tri-cities of North County or Ramona and rural East County.

In the following discussion of housing costs. Poway has been compared to all of its neighboring areas. In most cases, prices in Poway can be seen to occupy a middle ground between the more rural areas to the east and north and the more urban areas to the west and south.





## Housing Sales Prices

The rapid increase in the cost of housing is the one housing characteristic which has received the most attention over the past decade. TABLE 36 shows the change in Poway over that period, as shown by the federal censuses. TABLE 37 show the 1980 median value and rent for the City and surrounding subregional areas. These medians apply to all units in the City, whether or not they were actually for sale or rent at the time of the census. The cost of buying a house in Poway in 1982 is shown in the data in TABLE 38. It is based on a sample of approximately 55% of the sales in Poway from July, 1981, to June, 1982. Several interesting facts emerge from this data.

First of all, only 2% of the sales for that period were two-bedroom units. 55% were three-bedroom units and the remaining 43% had four or more bedrooms. The housing available in Poway is designed for larger households. These units are distributed throughout the City, not concentrated in any one area. The only two bedroom units included in the sample were located in the southeastern section of 170.05, off Espola Road. Two-bedroom units were available in condominiums and mobile homes as shown below in TABLES 39 and 40 respectively.

Secondly, a wide range of prices existed for units with the same number of bedrooms. Although the median value of housing in Poway is high in comparison to surrounding areas (TABLE 37) that median does not accurately reflect the range of prices in the City. Generally, the higher prices are asked for larger houses on larger lots with amenities (e.g., tennis courts, swimming pools, etc.) and the lower prices are for older units on smaller lots.

Finally, there is a significant price variation within each census tract. This indicates that there is a relatively fine grain mix of housing opportunities for all income groups within



the City. The most expensive housing is clearly located in North Poway (census tracts 170.05, 170.06, and 170.07). However, even in that area there are more moderately priced units.

The countywide median income in 1980 was \$17,107. A moderate income household is defined as one earning up to 120 % of that median, or \$20,528. The standard typically applied by lending institutions and the federal government is that a household can afford to buy a house costing up to three times as much as its annual gross income. Therefore housing costing less than \$61,585 would be considered affordable to moderate income households. None of the units in this survey fall into that category, meaning that the units would not be within the reach of more than half the households currently living in San Diego County.

In contrast to single family homes, most of the condominiums (60%) sold during the same period were two-bedroom units and the remainder had three bedrooms. There were no larger or smaller units. TABLE 39 displays the information on these sales. Because the sample was so small, the results are somewhat skewed. Most of the two-bedroom sales were from a new development in North Poway. The remainder were resales of somewhat older units in Central and South Poway. It does illustrate the point that the variation in condominium prices in the City is also great.

The third type of owner-occupied housing in Poway is mobilehomes (TABLE 40). The units sold during the time of our survey are all in parks in Central and South Poway (specifically, census tracts 170.08, 170.09, 170.11). Again, because the sample is small (2% of the total mobilehomes in the City), data is presented on a city wide basis and may be skewed. However, mobilehomes are clearly the most affordable units in Poway.



## Rental Housing Prices

Those households which cannot afford to own or choose not to beburdened with the responsibilities of ownership, rent their housing unit. As was discussed above, Poway has 1105 apartment units. In addition, there are condominiums, mobilehomes, and single family houses which are rented out. TABLE 41 shows a summary of rental costs for Poway and surrounding communities. Poway rents are less expensive on the average than surrounding communities, with the exception of Ramona. This is an indication of its position between the market areas. However, it should be noted that apartments and condominiums in north San Diego tend to have more amenities (recreation center, pool, tennis courts, etc.) than apartments in Poway do. This would explain some of the price variation.

## Components of Housing Cost

The major components of housing cost are: land, labor, materials, financing, overhead, and profit. The cost of each of these will vary significantly depending on the location of the development and the type of house being built. Land in some areas costs more per square foot than land in other areas. Even within Poway, a City of relatively expensive land, sites with a view or near streams or other attractive natural features will cost more per square foot than those which do not have such features.

Construction costs also vary according to the type of development. Multifamily housing is generally less expensive to construct than single family housing. However, there is a wide variation within each type depending on the size of the unit and the number and quality of the amenities offered. This includes such obvious items as the inclusion of fireplaces, swimming pools and tennis courts, as well as the less obvious decisions on the grade of carpeting and tiles used, types of appliances and light fixtures, and quality of cabinetry and other woodwork. In





San Diego County, a survey of local builders and contractors revealed that conventional multifamily construction is generally running between \$30 and \$50 per square foot, and single family homes of the type being built in Poway, between \$45 and \$85 per square foot.

TABLE 42 shows the average percentage contribution of each cost factor to the overall cost of constructing a single family house in southern California over the past 10 years. The factor which has grown most rapidly in recent years is the cost of financing. Developers as well as homebuyers have found it difficult to acquire financing even if they could afford the high interest rates. A reduction in interest rates would probably lead to increased development activity throughout the County, including Poway.

Manufactured housing (including both mobilehomes and modular housing) is significantly less expensive than conventional construction. However, even within this type of housing there is a wide range of prices depending on the size and finish of the units. In 1981, the average cost per square foot of a manufactured house was \$27.

The interrelationship of the cost components is very complex and shifts significantly from area to area and development to development. For example, where a developer has owned a piece of land for five or ten years (speculating that it would be valuable in the future) the cost of land per unit would be less than if it had been recently purchased. Finally, the availability of skilled construction crews who will work for less than union wages can reduce costs. The number of factors which must be considered by the developer and can be adjusted to make a project pencil out mean that it is difficult to describe an average or typical project. In the final analysis, the major controlling factors appear to be the requirements of the development review process and the ultimate marketability of the unit.





TABLE 36  
HOUSING COSTS  
1970-1980

<u>AREA</u>	<u>MEDIAN VALUE</u>		<u>MEDIAN RENT</u>	
	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
CITY TOTAL	\$22,700	\$110,000	\$145	\$350
NORTH POWAY	42,700	150,000	150	400
170.05	42,700	150,000	150	500
170.06	42,700	150,000	150	400
170.07	42,700	100,000	150	400
CENTRAL POWAY	22,500	80,000	145	300
170.08	22,700	80,000	143	300
170.09	22,700	80,000	143	250
170.13	26,100	80,000	157	300
SOUTH POWAY	21,800	80,000	146	300
170.10	21,800	80,000	146	400
170.11	21,800	80,000	146	250
170.12	21,800	100,000	146	200

SOURCES: 1970 U.S. Census  
          1980 U.S. Census

NOTE: Subareas and census tracts are shown on Exhibit 7,8,9  
      and 10.



TABLE 37  
1980 HOUSING VALUES AND RENTS

<u>AREA</u>	<u>MEDIAN VALUE</u>	<u>MEDIAN RENT</u>
POWAY (City)	\$110,000	\$350
ESCONDIDO (SRA)	90,800	270
NORTH SAN DIEGO (SRA)	120,000	300
DEL MAR/MIRA MESA (SRA)	98,100	370
ELLIOTT/NAVAJO (SRA)	112,000	320
RAMONA	96,100	260
SAN DIEGO COUNTY	91,000	260

SOURCE: 1980 U.S. Census

NOTE: Subregional areas are shown on Exhibit 6.



TABLE 38  
1982 MARKET SURVEY  
SINGLE UNIT FAMILY UNITS

<u>CENSUS TRACT</u>		<u>2 BR</u>	<u>3 BR</u>	<u>4 BR</u>	<u>AVG</u> <u>ALL</u>	<u>MEDIAN</u> <u>ALL</u>	<u>RANGE</u> <u>LO/HI</u>
170.05	AVG	\$107,750	\$165,300	\$232,400	\$168,150	\$183,000	\$ 90,000
	MED	108,000	177,000	215,000	168,150	183,000	440,000
170.06	AVG	NONE	160,000	212,000	266,000	174,000	125,000
	MED	NONE	171,000	210,000	266,000	174,000	315,000
170.07	AVG	NONE	127,500	176,700	152,100	125,000	79,900
	MED	NONE	95,000	160,000	152,100	125,000	336,000
170.08	AVG	NONE	92,100	90,800	91,450	85,000	65,000
	MED	NONE	82,900	85,000	91,450	85,000	133,000
170.09	AVG	NONE	103,950	147,500	125,700	115,000	80,000
	MED	NONE	115,000	161,000	125,700	115,000	173,000
170.10	AVG	NONE	86,000	101,700	93,850	90,000	71,000
	MED	NONE	85,000	102,000	93,850	90,000	116,000
170.11	AVG	NONE	88,800	93,500	91,200	92,000	74,900
	MED	NONE	90,950	94,000	91,200	92,000	107,000
170.12	AVG	NONE	NONE	NONE	NONE	NONE	NONE
	MED	NONE	NONE	NONE	NONE	NONE	NONE
170.13	AVG	NONE	99,300	NONE	99,300	92,000	89,900
	MED	NONE	92,000	NONE	99,300	92,000	116,000
CITY TOTAL		\$407,100	\$9,745,480	\$11,044,260			
CITY AVERAGE		\$101,775	\$ 107,100	\$ 151,300			
CITY MEDIAN		\$107,750	\$ 90,950	\$ 118,000			
RANGE: LOW		\$ 67,600	\$ 65,000	\$ 70,000			
HIGH		\$124,000	\$ 336,000	\$ 440,000			

SOURCE: California Market Data Center

Sample assembled by Phelps Company, Inc.

Jan. 1981 - June 1982.

NOTE: Census tracts are shown on Exhibit 10.



TABLE 39  
1982 MARKET SURVEY  
CONDOMINIUM SALES

	<u>2 BEDROOM</u>	<u>3 BEDROOM</u>
AVERAGE COST	\$130,600	\$73,500
MEDIAN COST	\$131,000	\$65,100
RANGE: LOW	\$117,000	\$62,000
HIGH	\$139,000	\$91,900

SOURCE: California Market Data Center

NOTE: Two bedroom units were located in a new development in north Poway. Three bedroom units were resales of older units in other parts of the City. As a result, two bedroom prices are higher than three bedroom prices.

TABLE 40  
1982 MARKET SURVEY  
MOBILEHOME SALES

	<u>2 BEDROOM</u>	<u>3 BEDROOM</u>
AVERAGE PRICE	\$20,411	\$26,100
MEDIAN PRICE	\$19,750	\$23,500
RANGE: LOW	\$18,500	\$22,500
HIGH	\$23,644	\$32,172

SOURCES: California Market Data Center





TABLE 41  
AVERAGE  
RENTAL HOUSING PRICES

<u>AREA</u>	<u>STUDIO</u>	<u>1 BR</u>	<u>2 BR</u>	<u>3 BR</u>	<u>4 BR</u>
POWAY - apartment	\$234	\$285	\$371	\$444	--
condominium	--	--	450	462	--
house	--	--	--	602	\$754
ESCONDIDO - apt.	\$210	\$301	\$406	\$520	--
condo.	--	345	416	573	--
house	--	--	485	630	--
N. SAN DIEGO - apt.	--	\$367	\$441	\$605	--
condo.	--	397	487	638	792
house	--	--	--	695	825
DEL MAR/MIRA MESA					
apt.	\$309	\$359	\$439	--	--
condo.	--	449	515	593	--
house	--	--	563	760	963
ELLIOTT/NAVAJO					
apt.	--	\$353	\$432	\$544	--
condo.	--	400	533	664	850
house	--	--	611	695	797
RAMONA - apt.	--	\$265	\$300	--	--
condo.	--	--	--	--	--
house	--	--	750	830	--

SOURCE: Survey conducted by Phelps Company Inc.

NOTE: Subregional area are shown on Exhibit 6.



TABLE 42  
COST COMPONENTS  
SINGLE FAMILY HOUSE  
1970 - 1980

<u>COMPONENT</u>	% CONTRIBUTION		
	<u>1970</u>	<u>1976</u>	<u>1980</u>
CONSTRUCTION			
LABOR	20.9%	18.6%	15.5%
MATERIALS	35.1	30.4	27.0
IMPROVED LAND	21.0	25.0	27.8
INTERIM FINANCING	6.5	8.5	12.0
OVERHEAD & PROFIT	12.0	12.5	12.7
OTHER	<u>4.5%</u>	<u>4.9%</u>	<u>5.0%</u>
	100%	100%	100%

SOURCE: Construction Industry Research Board

NOTE: Category "OTHER" includes insurance, marketing, etc. Profit and overhead category is a residual estimate remaining after determination of the cost of other components.



# APPENDIX



APPENDIX A  
TECHNICAL NOTES





## 1. HOUSING AND RELATED STATISTICS

Since this Needs Assessment report is intended to be the primary data base for development of the Housing Element of the General Plan for the new City of Poway, every attempt was made to make it as accurate and as comprehensive as possible. People who are familiar with Poway and the published statistics on its population and housing characteristics may be puzzled that the numbers contained in this report do not always agree with those from other sources. The reason for this is that the community of Poway grew very rapidly during the 1970's and the boundaries of the geographic areas by which basic information is reported were changed several times during that period. As a result, the City's boundaries are not contiguous with 1970 census tract or census block boundaries, 1975 census tract or enumeration district boundaries, 1980 census tract or census block boundaries, the 1970 or 1980 "Census Designated Place" Poway, or the Poway Community Planning Area. Exhibits 7, 8, and 9 show the City's boundaries superimposed on (respectively) 1970, 1975, and 1980 census tracts. Wherever possible an attempt was made to go to the original data bases and recalculate the relevant statistics to reflect what existed within the city limits of Poway.

In 1970, development in Poway (as well as surrounding communities) was not as widespread as it is today. Assessors maps indicate that fewer than 20 dwelling units were located in the area which was part of the unincorporated community of Poway but is not included in the present city boundaries. Although it is not possible to separate these units from the remainder of Poway for a completely accurate count, this number is so small and the units so scattered, their inclusion does not affect the statistics for the City as a whole or for the individual census tracts. Information on Poway in 1970 reflects all of the unincorporated area of census tracts 170.01, 170.02, 170.03, and 170.04.



In addition to the problem of boundary discrepancies, data from the 1975 census suffers because there was a high "no-response" rate, particularly on the questions relating to income, employment, and housing costs. Furthermore, the design of the questions was such that in some cases the data is not truly comparable with 1970 or 1980 census information. Where the data appeared comparable and useful, we have made the effort to recalculate the information for the City. In those cases where census tracts were split by the city boundaries, data was apportioned based on assessor's information on the location of developed parcels. These tracts were census tracts 170.05, 170.10, and 208.

In the 1980 Census, Poway was designated as an unincorporated "place" so a good deal of information is available. However, again, the boundaries of the City of Poway do not coincide with those of the census designated place. In order to obtain the most accurate reflection of conditions in the City, census block information was obtained and apportioned on the basis of assessors maps of existing development. The blocks so apportioned are census tract 170.05, blocks 101 and 902, and census tracts 170.10 and 208.

Except in the calculation of funding entitlements, the absolute numbers are not so important for planning as the changes and trends which they reveal. In order to demonstrate these, we have re-aggregated information from the 1975 and 1980 census tracts to be comparable with the three major subareas identified in Exhibit 6.

## 2. LAND USE EXHIBITS

Preparation of the land use exhibits employed the use of "state of the art" computer technology in preparing the data base. When preparing a plan either by computer or by hand drafting the accuracy of the final exhibit is largely



dependent upon the accuracy of the data source. Because all of the source documents used were of 1000 scale or larger (i.e., 400, 200 scale, etc.), the accuracy of these exhibits is excellent at 1000 scale. Future requests for graphic blowups of areas will be prefaced with an explanation of their accuracy.

The data base system has been designed for future request of exhibits overlaying the various features currently depicted on individual maps. For example, a plan with slope categories overlayed on zoning or geotechnical considerations might be of interest. Due to the high speed plotter and other automated data base management techniques, the generation of alternative exhibits including selecting colors or mylar/paper medias is possible with minimal manual effort in most situations.

Besides the city boundary, streets, lake, etc., being depicted in each map, the geotechnical and slope information generally terminates against a line representing major existing land use. Developed areas such as Old Coach Road or High Valley areas were ignored due to the difficulty in establishing a boundary for all rural conditions. These areas are depicted, however, in the Projected Development exhibit in the same color (but thinner pen).



TABLE A-1

## APARTMENT OWNERSHIP

<u>APARTMENT ADDRESS</u>	<u>ASSESSOR'S PARCEL NUMBER/ PARCEL SIZE/GENERAL PLAN</u>	<u>OWNER</u>
1. Marletta Manor 13657 Cynthia	317-122-31 1.25 acres 11 - Office/Prof.	Marletta Manor Apts., Inc. 1010 Second Ave #2233 San Diego, CA 92101
2. Olive Tree Lane Apts. 13255 Olive Tree Lane	323-190-67 1.35 acres 9 - Res. 29 du/ac	Victor M & Flora Weisser 952 Songbird Lane Bonita, CA 92002
3. Silver Oak Apts. 18409 Midland Rd.	317-101-21 8.80 acres 13 - Gen. Comm.	G.R. Smith Corp. 101 Ritchfield Ave. El Cajon, CA 92020
4. Villa Verde Apts. 13326 Community Rd.	317-101-21 1.53 acres 9 - Res. 29 du/ac	Biwing Venture Ltd. 4688 Oregon St. San Diego, CA 92116
5. Valle Poway Apts. 13312 Community Rd.	317-101-39 1.51 acres 9 - Res. 29 du/ac	Poway Community Assn. 5605 El Cajon Blvd. San Diego, CA 92115
6. La Privada Apts. 13240 Community Rd.	317-101-18 .078 acres 9 - Res. 29 du/ac	Gary & Sharon Naiman 5605 El Cajon Blvd. San Diego, CA 92115
7. Poway Villas 13001 Bowron	317-474-10 3.13 acres 9 - Res. 29 du/ac	Poway Villas Inc. c/o Sanfric Inc. 1272 Morena Blvd. San Diego, CA 92110
8. Carriage Arms Apts. 13221 Carriage Rd.	317-440-52 .92 acres 13 - Gen. Comm.	Carriage Investors P.O. Box 51 Poway, CA 92604
9. Carriage Village Apts. 13126 Carriage Rd.	317-490-10 0.94 acres 9 - Res. 29 du/ac	Carriage II Ltd. P.O. Box 51 Poway, CA 92604
10. Carriage Road Apts. 13130 Carriage Rd.	317-490-10 1.88 acres 9 - Res. 29 du/ac	Carriage II Ltd. P.O. Box 51 Poway, CA 92604
11. Carriage House 13112 Carriage Rd.	317-490-54 0.56 acres 9 - Res. 29 du/ac	Valerie Quate, Trustee P.O. Box 51 Poway, CA 92064





12. Carriage Pines Apts. 13042 Carriage Rd.	317-490-28 0.40 acres 9 - Res. 29 du/ac	Paula J. & Lowelll T. Runion 16643 Maverick Lane Poway, CA 92064
13. Orange Gardens Apts. 12510 Oak Knoll Rd.	317-540-69 1.98 acres 9 - Res. 29 du/ac	Nielson, Radelow, Luce, Jones, et. al. c/o Klaus Radelow 1927 Fifth Ave. San Diego, CA 92101
14. Park Poway Apts. 12529 Oak Knoll Rd.	317-550-11 1.01 acres 9 - Res. 29 du/ac	R.J. & A.L. Fabulich, et. al. c/o Apt. Sales & Exchanges 591 Camino de la Reina, #700 San Diego, CA 92108
15. Oak Knoll Villas 12509 Oak Knoll Rd.	317-550-05 2.11 acres 9 - Res. 29 du/ac	Subnain Inc. 2859 El Cajon Blvd. San Diego, CA 92104
16. Hollydale Apts. 12455 Oak Knoll Rd.	317-550-04 2.38 acres 9 - Res. 29 du/ac	Hollydale Investors 225 Broadway, #1752 San Diego, CA 92101
17. Boulder Oaks Apts. 12425 Oak Knoll Rd.	317-550-20 2.20 acres 9 - Res. 29 du/ac	Manor Investments Assoc., Ltd. 2550 Fifth Ave., #509 San Diego, CA 92101
18. Westside Apts. 12430 Oak Knoll Rd.	317-540-44 1.18 acres 9 - Res. 29 du/ac	Edward K. & Joyce Harmon 12624 Oak Knoll Rd. Poway, CA 92064
19. Poway Plams 12500 Oak Knoll Rd.	317-540-70 0.95 acres 9 - Res. 29 du/ac	Wilcox, Taber, et. al. 13346 Calle Colina Poway, CA 92064
20. Unnamed 12440 Oak Knoll Rd.	317-540-24 1.01 acres 9 - Res. 29 du/ac	Hammerhead Ventures c/o Sun & Sea 4688 Oregon St. San Diego, CA 92116
21. Pomerado Gardens 12340 Ninth St.	317-021-23 1.62 acres 12 - Neigh. Comm.	Patrick & Bridgett Finn 17304 Cleeco Place Poway, CA 92064
22. Casa Anita 12345 Pomerado Rd.	317-232-21 1.08 acres 9 - Res. 29 du/ac	Ronald J. Brahaus c/o Casa Anita 111 West C. Street, #900 San Diego, CA 92101
23. San Antonio Apts. 12323 Pomerado	317-232-06 2.16 acres 9 - Res. 29 du/ac	Anthony & Marianne Aviano 12729 Stone Canyon Rd. Poway, CA 92064



24. Tennis Club Apts. 13626 Pomerado	317-031-34 1.75 acres 12 - Neigh. Comm.	Valle Verde West Ltd. c/o Hardwood Investments 11680 Iberia Place San Diego, CA 92128
25. Canyon View Apts. 12745 Robison Dr.	317-640-71 1.66 acres 9 - Res. 29 du/ac	Charles D & Peggy Toomey, et. al. 708 Gage Dr. San Diego, CA 92106
26. The Pines 12025 Poway Rd.	316-070-39 0.88 acres 13 - Gen. Comm.	George B. & Phyllis McFetridg 12785 Cobblestone Rd. Poway, CA 92064
27. Unnamed 12551 Oak Knoll Rd.	317-550-13 0.80 acres 9 - Res. 29 du/ac	Edward K. & Joyce J. Harmon 12624 Oak Knoll Rd. Poway, CA 92064



APPENDIX B  
GEOTECHNICAL REPORT



LEIGHTON and ASSOCIATES



SOIL ENGINEERING

TESTING

GEOLOGY

October 8, 1982

ENVIRONMENTAL SCIENCES

Project No. 4820179-01

TO: Van Dell and Associates  
17801 Cartwright Road  
Irvine, California 92714

ATTENTION: Mr. Jeff Prostor

SUBJECT: Geotechnical Interpretive Mapping Symbols (GIMS) Map, City of Poway  
Housing Element, Poway, California

In accordance with our agreement, we have completed preparation of the Geotechnical Interpretive Mapping Symbols (GIMS) map of the City of Poway. Our preparation of the map has been the result of analyzing aerial photography and existing published and unpublished geologic maps of the Poway area. The area included in our study consists principally of the undeveloped portions of the City, although some overlap into developed areas may be apparent.

Our interpretations of geotechnical factors relative to land stability, landsliding, groundwater, seepage potential, expansive and compressive soils, erosion and rippability has utilized knowledge of geologic formations coupled with our engineering geologic and soil/foundation experience to provide a generalized map of those factors that should be considered by planners, design civil engineers, developers and the City of Poway prior to approval of future developments.

The use of the map generated by this effort is not intended to act as a substitute for detailed geotechnical studies that should be conducted for individual projects, but the map should be used by City staff or interested parties to determine the principal geologic and soil characteristics that should be addressed. Further, the factors listed in different areas of the City are not intended to delineate geologic hazards or conditions that would necessarily preclude development of an area.

Seismic considerations for the Poway area are not a part of the GIMS mapping program, and analysis of individual projects by geotechnical consultants will be required for determining ground response characteristics and for locating areas that may be prone to liquefaction.

We appreciate this opportunity to have worked on behalf of the City of Poway, and encourage any further discussions or questions regarding the derivation or use of the GIMS mapping system.

Respectfully submitted,

Dennis L. Hannan  
Vice President, CEG 953

DLH/sdb

Distribution: (4) Addressee

7290 ENGINEER ROAD, SUITE H, SAN DIEGO, CALIFORNIA 92111

(714) 292-8030





## INTRODUCTION AND PROJECT PURPOSE

The areas within the boundaries of the City of Poway include many different soil and geologic characteristics which can impact proposed land development. Development can include anything from a pipeline for utilities to, and including, multi-story buildings for commercial or residential purposes. Whenever any engineered structure is proposed, be it a road or a building, the ground upon which it is founded requires varying levels of understanding before the structural design is completed or before the project area is prepared for grading or construction.

With the above in mind, Geotechnical Mapping Symbols (GIMS) have been employed on this project to simplify the use of combined engineering geologic and soil engineering (geotechnical) knowledge as it is commonly applied to land-development feasibility and early planning. Our purpose in this study was to provide the City planning and engineering staff with mapped areas of the City which have identifiable geotechnical characteristics or factors that will require specific analysis by qualified professionals prior to the City's approval of a project. Most projects will require analysis jointly by a Civil Engineer registered in the State of California who specifically practices geotechnical engineering (soil and foundation engineering) and a Certified Engineering Geologist, registered in the State of California.

The geotechnical factors which have been specifically referred to by the GIMS map include:

- Compressible soils.
- Expansive soils.
- Shallow groundwater.
- Rippability.
- Groundwater seepage potential.
- Erosion and mudflows.
- Slope stability.

The specific GIMS symbol for each category is explained on the GIMS table in Appendix A.

## SCOPE OF ANALYSIS

The tasks that have been completed during the preparation of the GIMS map include the following:

- Engineering geologic interpretation of stereoscopic aerial photographs for the purpose of delineating various geologic formational boundaries (see Appendix B).
- Review and use of geologic information from various published and unpublished geologic maps (see Appendix B).
- Interpretation of soil and geologic information into the GIMS system of mapping.
- Preparation of the GIMS map.
- Preparation of the GIMS table explaining the seven geotechnical factors, their representative symbols, the commonly associated geologic symbol, a brief description of the geologic characteristics, and the types of geotechnical studies that should be performed and why (see GIMS map and Appendix A).
- Discussions with County of San Diego staff and engineering/planning staff of Van Dell and Associates.



## The Geotechnical Interpretive Mapping Symbols (GIMS) System

Leighton and Associates has devised the GIMS system of geotechnical mapping for planners, engineers and land developers to simplify the communication of those engineering geologic and soil/foundation engineering considerations that require the attention of the geotechnical consultant prior to the extensive planning and civil engineering design of projects. This system was first introduced by Dennis L. Hannan and Dr. F. Beach Leighton in their paper entitled, "Logical Interpretive Mapping Symbols (LIMS) for Use on Engineering Geologic Maps," that was presented to the Association of Engineering Geologists Annual Meeting in 1980.

The system is so named because the originator of the GIMS map interprets both soil engineering and engineering geologic information and utilizes his experience to employ the use of the symbols that are shown on the map. The symbols that have been devised (see Appendix A) represent the principal geotechnical considerations that can directly impact the feasibility and economics of project developments. Some of these same factors are also those which have commonly been referred to as "geologic hazards," but which really only become hazards if not properly identified and mitigated. The use of the system relies on the ability of the map user to quickly familiarize himself with a few symbols that, when observed on the GIMS map, can be directly translated into a course of action by any one of several disciplines that are involved in land use and land development. Each symbol is unique to a particular geologic or soil engineering concern that is commonly referred to by the geotechnical community. Once the map user has memorized the symbol and its related geotechnical consideration, area-wide maps can be viewed and utilized to understand land-use potential and those impacts which will require thorough analysis by the soil engineer and the engineering geologist.

Through the use of the GIMS map, it is intended that the traditional geologic map be utilized only by the trained professional as a backup document during the review of a specific project area. The GIMS map should be used by the party wishing to readily understand the principal geotechnical considerations applicable to the land-use decision-making process for a given area within the City.

Reviewing the geotechnical considerations that have been mentioned above, there is some generalized degree of greater or lesser impact that a certain geotechnical factor may have on proposed developments. These impacts do not suggest development is not possible, but simply suggest in what order the intensity of geotechnical investigation and mitigation might be considered. The Slope Stability symbol would probably be an area where development constraints might require the greatest care and analysis, followed to some lesser degree by Expansive Soils, Rippability and Compressible Soils. The factors of Shallow Groundwater, Groundwater Seepage Potential and Erosion might all be considered of equal importance and have similar economic and design impacts.

### GIMS System Limitations

Any mapping system has limitations under which it should be employed. The GIMS system of mapping does not act as a substitute for the project specific geologic map or geotechnical investigation. The GIMS mapping simply provides some pre-assessment of what should be looked at in more detail. Additionally, the GIMS mapping cannot be used to make assumptions regarding how or if a piece of property can be safely developed. This determination must be left to the consultants during their detailed investigations which they will submit to the City for consideration and third-party review.





The areas delineated on the GIMS map for the City of Poway are generalized. Some of the geotechnical considerations mapped for a given area could also extend into another area which does not display the same symbol. For example, Expansive Soils are generally assumed to be present in areas underlain by the Eocene Friars Formation, landslides, colluvium and sometimes alluvium. However, there are times when expansive soils might also be associated with the granitic terrains where the expansive soil GIMS symbol has not been drawn. This is the reason detailed analyses are necessary on a project specific basis, and this kind of flexibility in the use of the GIMS map is necessary to its being a valid land-use tool.

The GIMS map has not been formulated to act as a landslide detection or landslide location map, but those areas where landslides do exist are within the map boundaries that utilize the Slope Stability symbol. Mapping of individual landslides in the Poway area would require inestimable hours in the field and in the office using aerial photography. Further, it is common that when a published geologic map (in this case the GIMS map) is supplied to the public, it becomes a sort of "Bible", and anything that is located on a published map is considered to be unquestionable. This assumption is not valid and, for that reason, Leighton and Associates has not located individual landslides except where they have been readily observed or where there is not likely to be any question regarding their actual existence. Where the slope stability symbol has been utilized, landsliding must be analysed by the geotechnical consultant in his investigation of the property; both the existence of ancient slides, and the possible generation of new slides due to possible development design.

Because accurate geologic data mapping requires "on-the-ground" mapping, the GIMS map cannot be assumed to have absolute boundaries between geologic and soil units. Such a delineation of accurate boundaries must be left to individual project consultants. GIMS map boundaries are only intended to provide general guidance.

#### Associated Geologic Units

The GIMS map does not include a great deal of reference to the geologic units mapped in the Poway area. For reference purposes, the following geologic symbols used in the GIMS table apply to the listed formations in order of increasing geologic age:

<u>Geologic Symbol</u>	<u>Geologic Formation</u>
Col	Colluvium
Qal	Alluvium
Qls	Landslide
Tst	Stadium Conglomerate
Tf	Friars Formation
Kl	Lusardi Formation
Kg	Granitics
Kgb	Granitic Type Basement



## Recommended Supplements to the Use of the GIMS Map

The GIMS map is expected to aid the City of Poway in recognizing which areas of the City require what particular geotechnical emphasis for investigation. But the map does not relieve the geotechnical consultant of his responsibility to undertake a thorough analysis of any development project with attention being given to all of the geotechnical concerns that are shown on the GIMS map, regardless of the area in which the consultant is working.

To further enhance the use of the GIMS map, it would be advisable for the City to review and adopt specific guidelines for geotechnical reports like those used throughout Southern California and in the City of San Diego. The adoption of such guidelines would further prevent the exclusion of geotechnical details from investigations conducted within the City, and their use would allow smoother third-party review by the City of Poway's geotechnical consultant reviewer. The guidelines would also act as an additional checks and balance system to protect the consumer who purchases projects before or after their completion.

It would also be advisable for the City of Poway to review and update their grading ordinance to include the elements that are necessary to achieve maximum community benefit from the use of geotechnical investigations and consultants' reports. Adoption of Chapter 70 of the Uniform Building Code, Grading and Excavating, or similarly adapted codes, would allow for improved assurance to the community that appropriate and adequate geologic and soil investigations and analyses are being completed.

## Non-technical Explanation of the GIMS Symbols

### COMPRESSIBLE SOILS:



These are soils that compress (become denser) after a structure has been built. The weight of the structure (this might be a building or an artificial filled-in area) may be more than the soil can adequately support. If this is the case, the soil settles and the structure may be distressed. A soil engineer must investigate this kind of soil and make recommendations for the type of foundation design that should be used to mitigate the soft soil condition.

### EXPANSIVE SOILS:



These soils are generally clay-type soils that have the tendency to swell (expand) when they become wet. Clays often increase their volume when they absorb moisture. These clay soils also tend to shrink (hence the mud-crack type of phenomena often seen in Poway) when they dry and the moisture dissipates. This soil expansion and shrinking requires the attention of the soil engineer so that structure foundation designs include enough concrete and steel to reinforce against the adverse soil condition.





## SHALLOW GROUNDWATER:



There are areas within Poway where the ground surface may appear to be dry, but water may lie only a few feet below the surface. The presence of shallow water directly impacts soil engineering and foundation design, particularly for heavier structures, but it can also impact the construction of single-family residences. In areas where subsurface sewage disposal systems (leach lines) are being suggested, shallow groundwater can adversely impact the operation of such systems. Where this may be the case, a groundwater geologist should evaluate the conditions to assure that a rising water level will not adversely affect the disposal system.

## GROUNDWATER SEEPAGE POTENTIAL:



There are areas within Poway where the soil and geologic conditions are such that groundwater seeps, or springs, may not be present or existing, but after development takes place and property owners begin to irrigate, water may travel in the subsurface soils and migrate to adjacent properties. At some point, the water may surface where it is not wanted. Where there is a potential for groundwater seepage, and it is reasonably predictable, geotechnical consultants should be providing measures to indicate that they have considered this potential and have designed mitigation measures to intercept unwanted seepage and dispose of it.

## EROSION, MUDFLOWS:



These are areas where there may be a more than usual potential for experiencing soil erosion, either in the native and natural slope, or in artificial cut and fill slopes that are manufactured. In natural slope areas, this symbol also suggests that the geotechnical consultant should research old aerial photographs to determine if mudflows may have occurred in recent history, and developments should plan and mitigate against this potential. Planners and civil design engineers will require evaluation of this potential by an engineering geologist.



## SLOPE STABILITY:



These are areas where soils and geologic formations may exist that do not always remain standing due to weaknesses in the soil. Naturally occurring slopes may have reached an equilibrium, but development grading could initiate movement of weak soils during wet periods or as the result of eventual irrigation by property owners. In these areas, there may be existing ancient landslides, or there may be no apparent landslides. An engineering geologist and soil engineer will be required to investigate such a hillside to determine if landsliding is present, or to determine if there is potential for landsliding after grading of the landscape.








## RIPPABILITY:



These areas may consist of shallow hard rock that cannot be easily excavated by large bulldozers or earthmoving equipment. If development of these areas is considered, then information may be required that indicates how much blasting may be required to make the excavations necessary to complete the development. Rippability specifically refers to the economics of how hard rock terrains can be "ripped" by earthmoving equipment and rippability is more of an economic concern to the land development interest during the planning of his project. Rippability plays no role in constructing filled areas, but it may impact consideration for cutting of building pads, roadways, and installation of underground utilities.



G I H S EXPLANATION TABLE

HAZARD SYMBOL	GEOTECHNICAL CONSIDERATION	ASSOCIATED GEOLOGIC UNITS	DESCRIPTION	TYPICAL GEOTECHNICAL INVESTIGATION
	COMPRESSIBLE SOILS	Col, Qal, Qls	Unconsolidated soils which may be prone to settlement under building and/or fill loads. Typically located along canyon bottoms within landslide mass and the lower portions of slopes.	Geotechnical investigation to determine presence, thickness, lateral extent, and consolidation characteristics of the materials. Recommendations for mitigation if found necessary by geotechnical consultant.
	EXPANSIVE SOILS	Qals, Tf	Soils containing appreciable amounts of expansive clay; colluvium, landslide and Friars Formation materials contain potentially expansive clays. Wetting and drying may cause heaving of these soils that might result in damage to foundation and slabs.	Geotechnical investigation to determine the expansive nature of the soil and to determine the thickness and lateral extent of the soil. Recommendations for mitigation if found necessary by geotechnical consultant.
	SHALLOW GROUNDWATER	Qls, Kg, Kgb, Kl, Qal	Shallow groundwater may be encountered in landslide debris, low lying crystalline rock and alluvial areas. Groundwater is most likely contained in fractures and interstitially in decomposed portions of the crystalline rock.	Geotechnical investigation to determine the depth to groundwater in alluvial and landslide areas. Geologic mapping during grading to observe any perched groundwater conditions to contacts and/or in fractures. Recommendations for mitigation if found necessary by geotechnical consultant.
	GROUNDWATER SEEPAGE POTENTIAL	Kg, Kgb, Kl, Tst, Tf	Locally perched groundwater may exist near the contacts between major bedrock units and within fractures in the crystalline rock.	Appropriate prior to and during grading.
	EROSION, MUDFLOWS	Kg, Kgb, Kl, Tst, Tf	Concentrated surface water runoff promotes rilling and erosion. Mudflows may result from surface water run-off on steep slopes.	Geologic mapping of these areas should be performed in order to delineate potential hazards due to erosion. Recommendations for mitigation if found necessary by geotechnical consultant.
	SLOPE STABILITY	Qls, Tf	Slopes underlain by active or ancient landslides and by undisturbed Friars Formation are susceptible to shallow and deep landsliding.	Subsurface geotechnical investigation to determine bedrock structure, ancient or active landslide extent and subsurface geometries, strength parameters of soils to allow slope stability calculations. Recommendations for remedial grading or other stabilization methods should be made in areas determined to be underlain by potentially unstable landslide deposits. Recommendations for allowable cut and fill slope heights and slope inclinations in areas of undisturbed bedrock materials. As-graded maps and reports of geologic inspections made during remedial grading.
	RIPPABILITY	Kg, Kgb, Kl, Tst	Areas underlain by granitic basement rock, the Santiago Peak Volcanics, the Lusardi Formation and the Stadium Conglomerate may be susceptible to difficult excavation.	Seismic surveys to determine rippability of these materials. Recommendations for grading techniques and disposal of oversized rock if determined necessary by geotechnical consultant.



## APPENDIX B

REFERENCES

- Hannan, Dennis L. and Leighton, F. B., 1980, Logical interpretive mapping symbols (LIMS) for use on engineering geologic maps: (abs.) Association of Engineering Geologists Annual Meeting, Program and Abstracts, p. 34.
- Kennedy, M. P., and Peterson, G. L., 1975, Geology of the San Diego Metropolitan area, California, Section B-eastern San Diego Metropolitan area: California Division of Mines and Geology, Bulletin 200, p. 45-56.
- San Diego County - Unpublished geologic maps and geotechnical reports for the City of Poway, compiled by Charles Lough, County Geologist.

Aerial Photographs

San Diego County - aerial photographs - 1978 color series, scale: 1" = 1,000'.

<u>Line</u>	<u>Photo Number</u>
26B	19-22
27B	11-24
28C	1-25
29C	1-23
30B	20-35
30C	1-10





## APPENDIX C



## BIBLIOGRAPHY

California, State of: "Housing Element Guidelines", (1980 version)

Community Research Associates: "Undocumented Immigrants: Their Impact on the County of San Diego", (San Diego, CRA, May, 1980)

Cornelius, Wayne A.; Chavez, Leo R.; and Castro, Jorge G., "Mexican Immigrants in Southern California: A Summary of Current Knowledge (La Jolla, UCSD, 1981)

Hughes, James W., ed., Methods of Housing Analysis, (New Brunswick, N.J., Center For Urban Policy Research, 1979)

San Diego County, "Border Task Force Final Report, (1980)

San Diego County, "Housing Element of the General Plan, (1982 revision)

San Diego County, "Poway Community Plan", (1979)

SANDAG "Areawide Housing Opportunity Plan", (March, 1981)

SANDAG "Regional Growth Forecast - Series 5" background materials (1980 & 1981)

Stegman, Michael, ed., Housing and Economics, (Cambridge, Mass., The MIT Press, 1970)



U.C. BERKELEY LIBRARIES



C124895808



